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IN THE

Supreme Court of the United States

OCTOBER TERM, 1971

MOTOR CITY METAL TREATING, INC.
Petitioner,

—vs—

KOLENE CORPORATION and
DEUTSCHE GOLD-UND-SILBER
SCHEIDEANSTALT
Respondents.

PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT

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Petitioner respectfully prays that a writ of certiorari issue to review the judgment entered on March 9, 1971 of the United States Court of Appeals for the Sixth Circuit in its cause numbered 20,107.

I. OPINIONS BELOW

The opinion of the Sixth Circuit Court of Appeals in this cause is set forth in the Appendix to this Petition, commencing at page 1(a). It has been officially reported as modified by an Order dated May 7, 1971, which Order

is set forth in the Appendix commencing at page 16a, at 440 F.2d 77.

The opinion of the District Court is set forth in the Appendix to this Petition, commencing at page 17a. It has been officially reported at 307 F. Supp. 1251.

II. GROUNDS OF THIS COURT'S JURISDICTION

The judgment sought to be reviewed was dated and entered on March 9, 1971.

Petitioner filed a timely Petition for Rehearing which was denied by an Order dated May 7, 1971.

The United States Code, Title 28, Section 1254(1) confers on this Court jurisdiction to review by writ of certiorari the judgment in question.

III. QUESTIONS PRESENTED

1. Did the Courts below, in finding that Petitioner infringed the claim-in-suit, ignore prevailing decisions of this Court and standards set forth in the patent statute that would prohibit a finding of infringement?

2. As a matter of law may the claim-in-suit, calling for a process using a cyanate level of "about 25-40%," be infringed by a process using a cyanate level of 48-50% or above?

3. As a matter of law may the claim-in-suit, calling for a process using a cyanate level of "about 25-40%," be expanded by the doctrine of equivalents so as to cover a process using a cyanate level of 48-50% or above when the limitation "about 25-40% cyanate" was inserted by amendment?

4. Have Respondents misused the patent-in-suit?

5. Is it patent misuse for the owners of a process patent to announce that written process licenses under the patent are not available to captive shops while granting captive shops implied process licenses by virtue of the sale to them of unpatented salts used in the patented process?

6. Is patent misuse avoided if the owners of a process patent grant written patent licenses to heat treaters where each written license requires that unpatented salts for use in the patented process be purchased from the patent owners, if the written license also includes the right to use the name of the patented process as a trademark?

IV. STATUTE INVOLVED

The Patent Act, 35 U.S. Code, Section 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention . . .
>
> An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

V. STATEMENT OF THE CASE

The opinions below relate to the issues of validity, infringement and misuse of the patent-in-suit, United States Letters Patent No. 3,022,204, as well as whether the Respondents indulged in fraud or inequitable conduct before the Patent Office in connection with the prosecution of the applications which ultimately led to the patent-in-suit. The

District Court held patent claim 1 valid, infringed by Petitioner, and found no misuse. In addition, no fraud or inequitable conduct was found. The Sixth Circuit affirmed.

A. PATENT-IN-SUIT

The patent-in-suit relates to a metal treating process known by the generic name "soft nitriding," and by Respondents tradename Tufftride. The "soft nitriding" process was developed in Germany in the 1950's, and is a process for treating metal to improve its wear and fatigue properties. In its early development in the 1950's, the process was carried out by immersing a metal workpiece in a molten salt bath contained in an iron pot. The bath was maintained at a temperature of about 570° C, and the constituents of the bath included both cyanate (CNO) and cyanide (CN) salts. At that stage in the development, it was essential that the cyanate level of the bath be maintained above 30%.

Cyanate is the active ingredient of the molten bath, and during the process, the cyanate decomposes to form atomic or nascent nitrogen which reacts with the metal workpiece to improve its properties. Since the cyanate continually decomposes during the process, it was, of course, necessary to somehow replenish the cyanate in the molten bath.

The patent-in-suit is directed to an improvement of the "soft nitriding" process wherein an oxidizing gas such as air is continuously bubbled through the molten bath to replenish the cyanate lost during the process. This step may be referred to as aeration. The oxidizing gas reacts with cyanide salts in the molten bath to form cyanate at a rate sufficient to maintain the proper cyanate level [2CN (cyanide) + O_2 (oxygen) = 2CNO (cyanate)]. However, a problem did arise with aeration in that an undesirable

sludge was formed in the pot particularly when the cyanate level of the bath exceeded 40%. The patent-in-suit states that it is critical to the successful practicing of the process to maintain the cyanate level of the bath between "25 and 40% (828 J.A.).

Later, Respondents found that the sludge problem was considerably alleviated by substituting a titanium pot for the iron pot formerly used in the "soft nitriding" process, and that with a titanium pot, the cyanate level of the bath should be maintained between 42 and 50%. Respondents obtained a separate patent for this improvement (J.A. 1033), and Respondents now operate the Tufftride process with cyanate levels of 42 to 50% (J.A. 1039). Petitioner has *not* been charged with infringement of this later patent.

B. ACCUSED PROCESS

The accused process, practiced under the tradename Cynatride, resulted from a development of the Petitioner who discovered and patented that it would be best to operate aerated "soft nitriding" at a cyanate level of 48-50% and above with the molten salts contained in a *stainless steel pot* rather than the iron pot of the patent-in-suit or the titanium pot of the current Tufftride process.

C. INFRINGEMENT

Certiorari is sought on the issue of infringement because the accused process was held to infringe claim 1 of the patent-in-suit even though that claim contains an express limitation, inserted by amendment, in response to a rejection on prior art, requiring that the cyanate level in the patented process be between about 25 and 40%. As originally filed, application claim 1, a claim that is a model of clarity and precision, was directed to the point of

novelty which the Sixth Circuit in 1971 found to be a patentable addition to the prior art "soft nitriding" process. This advance consisted of aerating the "soft nitriding" process[1] and application claim 1 was literally readable on any aerated "soft nitriding" process including Petitioner's. Hence, had application claim 1 been allowed by the Patent Office, the issue of infringement would not have been raised below. Application claim 1 read as follows:

> 1. A method of treating metals having a surface adapted for nitriding which comprises immersing such metals in a fused salt bath containing alkaline metal cyanide and alkali metal cyanate maintained at a temperature between 500 to 600°C while passing a finely divided oxidizing gas through said fused salt bath.

Application claim 1 was rejected by the examiner on the basis of a British patent which disclosed a cyanate molten salt bath with ammonia gas bubbling through the bath. The examiner took the position that ammonia and air were functional equivalents when bubbled through a molten salt bath (J.A. 965-966). Instead of asserting that the examiner was wrong because ammonia and air were not functional equivalents, Respondents rewrote application claim 1 as application claim 12 (patent claim 1) as follows:

> 12. A process comprising immersing a metal workpiece in a molten alkaline metal salt bath comprising *between about 25 and 40% cyanate,* at least

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[1] The holding that the obvious expedient of aeration was patentable was the result of the clearly erroneous finding that aeration surprisingly led to uniformity of result. Uniformity in fact was not achieved until the titanium pot was introduced (J.A. 208-209; 1033-1036). Indeed, at trial the Court stated "The testimony was the iron pot was erratic and produced erratic results." (J.A. 270).

> about 50% cyanide, the remainder being substantially carbonate, the said bath being free of sulfur, selenium and tellurium, while aerating the bath with an oxygen-containing gas introduced in well distributed fine bubbles. (emphasis supplied).

After repeated references to the criticality of the 25-40% cyanate range during the prosecution,[2] the above claim was allowed and it was this claim that was found valid and infringed below.

After the patent-in-suit was granted, Petitioner retained experienced patent counsel to study the patent-in-suit and advise as to the scope of Respondents' claimed monopoly. At that time, counsel advised that a process operating substantially above the 40% cyanate limit of the patent would not infringe, since Respondents had deliberately inserted by amendment the "about 25-40% cyanate" limitation into patent claim 1 and were thus bound by this limitation. This advice was also tendered by Petitioner's litigation counsel. However, the Sixth Circuit found that the "about 25-40% cyanate" limitation inserted into patent claim 1 could be ignored basing its view on the startling finding that the limitation was inserted "to call the examiner's attention to the differences in the process and the prior art generally rather than to distinguish the cited art in terms of patentability," 440 F.2d at 83, 10a. Further, the Court felt free to ignore this limitation even though it admitted

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[2] Indeed, in the patent itself amongst other assertions of criticality, the statement is made as follows: "The critically improved range of 25-40%, and preferably 30 to 40% cyanate content of the bath . . ." (828 J.A., Col. 2, lines 40-41). Further Respondents' counsel admitted that the examiner was interested in the claimed cyanate level rather than aeration (J.A. 80-81).

that Respondents argued in the Patent Office that the range of 25-40% cyanate was critical.[3]

The Sixth Circuit did not stop at this point, but went on to characterize Petitioner's reliance on the language of patent claim 1 as piracy, 9a. After complaint by Petitioner's counsel that it was outrageous to brand a businessman who relied on patent claims and particularly upon a limitation inserted into a claim by amendment as a pirate, the Sixth Circuit withdrew its characterization of Petitioner's acts as piracy, but nevertheless reaffirmed its view that the "about 25-40% cyanate" limitation must be disregarded, 16a. Certiorari should be granted to reassert the primacy of patent claims as the measure of the patent monopoly and to reiterate this Court's view that a limitation inserted into a claim by amendment may not be disregarded, *Exhibit Supply Co.* v. *Ace Patent Corp.*, 315 U. S. 126, 136-137.

D. MISUSE OF PATENT-IN-SUIT

The commercial exploitation of the Tufftride process by the Respondents is believed to constitute patent misuse because the Respondents' marketing practices with regard to the aerated "soft nitriding" process are designed powerfully to assist Respondents in selling conventional unpatented cyanide and cyanate salts used in the patented process. Indeed, all users of aerated "soft nitriding" in the United States, with the exception of Petitioner, buy

[3] There is some suggestion in the Court's opinion that "about 25-40% cyanate" also literally reads on the accused process. The accused process has frequently been operated at levels above 50% cyanate. If there is literal readability the English language has lost all meaning and claims interpreted in this fashion would be so indefinite that they could not serve to inform the public as to precisely what they can and what they cannot do, 35 U.S.C. § 112. Hence, to the extent that the Sixth Circuit may have found literal readability, summary reversal is indicated.

the conventional unpatented cyanide and cyanate salts from Respondents.

1. CAPTIVE SHOPS

Respondents exploit their process patent in the United States in different ways with respect to the two classes of users, captive shops and heat treaters. First, captive shops (companies which use the Tufftride process in their own plants solely on their own products) are not granted written process licenses to practice the aerated "soft nitriding" process under the patent-in-suit. Indeed, Respondents have announced that no written patent licenses may be obtained (J.A. 222-224; 1066). However, unpatented conventional cyanide and cyanate salts for use in the patented process are made available to captive shops by Respondents. All users of the Tufftride process buy unpatented salts from Respondents except Petitioner, and all users of the aerated "soft nitriding" process not purchasing unpatented salts have been sued for infringement of the patent-in-suit,[4] The Courts below believed that there was

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[4] Indeed, even a manufacturer's representative was sued for patent infringement because he was believed to be selling the same unpatented salts as are sold by Respondents. With regard to this incident Respondent Kolene's president testified as follows:

> Q. Do you ever recall ever suing a salt manufacturer? A. Yes. I recall a suit against — I believe a manufacturer's representative. * * *
>
> Q. Could you explain to the Court why you sued John Shepherd? A. I understood that he was furnishing the exact composition that was covered, as I assumed, by our patent, and on the advice of counsel, suit was instituted.
>
> * * *
>
> Q. But you did sue him? A. We did sue him.
>
> Q. *Because he was selling salts?* A. *Of course, because I was told he was selling salts, and afterwards, under oath, he stated he was not.*
>
> Q. Now, if another manufacturer other than John Shepherd began manufacturing "Tufftride" salts, would it be your policy to sue him? A. Well, I would determine that at that time. (emphasis supplied) (J.A. 217-218)

nothing coercive in adopting the commercial tactic of making it abundantly clear that no written royalty bearing process licenses are available and then furnishing unpatented salts for use in the patented process. Of course, as long as unpatented cyanide and cyanate salts are purchased from Respondents the purchaser has an implied license under the patent-in-suit. Such commercial tactics have been summarily condemned by this Court and those holdings should be reaffirmed here. *B. B. Chemical Co.* v. *Ellis*, 314 U. S. 495; *Leitch Mfg. Co.* v. *Barber*, 302 U. S. 458; cf. *F. T. C.* v. *Texaco, Inc.*, 393 U. S. 223.

2. HEAT TREATERS

With respect to the so-called heat treaters who carry out the Tufftride process on parts owned by other concerns, a different method of commercial exploitation is followed. Respondents grant heat treaters written licenses and use a standard form license (J.A. 1083-1085). This written license grants to the heat treater the right to use the mark Tufftride, and more significantly licenses the heat treater under all patents owned by either of the Respondents relating to the Tufftride process.[5] This license contains a provision forcing the licensed heat treater to purchase all unpatented salts used in the patented process from Respondents. The District Court found that the tying

[5] The standard heat treater license contains the following paragraph (J.A. 1083):

> Any improvements, patentable or not patentable, developed by METAL TREATER in the process or apparatus or materials used for the TUFFTRIDE process shall be exclusively assigned and conveyed by METAL TREATER to DEGUSSA *and DEGUSSA patents or rights of use thereon or thereof, and any other patents or rights of use licensed to KOLENE by DEGUSSA or owned by KOLENE on the TUFFTRIDE process*, apparatus, or materials *will be automatically licensed to METAL TREATER hereunder.* (emphasis supplied)

clause was based not on the patent but rather on the trademark Tufftride and hence the tying clause did not amount to patent misuse. The Sixth Circuit agreed and bolstered its holding by pointing out that a non-standard license which deleted the offensive tying provision was offered to the Petitioner. However, this offer was by a letter dated August 20, 1968 which was shortly before trial, and prior to that time the only license offered to Petitioner was the standard license containing, as do all such licenses, the offensive tying provision. This offer was on a take-it-or-leave-it basis.[6]

If owners of process patents can use the power of their patent to control commercialization of the patented process and, when licensing the patent also license a name for the process and include in the combined license an unlawful tying provision and in this manner escape patent misuse, then the tying of unpatented materials to the licensing of process patents will suddenly become lawful. This Court

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[6] The testimony of Respondent Kolene's president on its licensing policy was as follows:

> MR. CULLEN: The licensee may purchase his salts from anyone else.
>
> THE WITNESS: No. If he signs the license contract, he agrees to buy the salts from Kolene.
>
> MR. CULLEN: Now the question obviously is: Suppose he doesn't want to sign the standard license contract? Then you will not give him a license?
>
> THE WITNESS: *He will not be a licensee* (J. A. 551-552).

As for Petitioner, the Pre-Trial Order specifically states the following:

> It is agreed that up to August 20, 1968, *the defendant was offered only a standard license and was told that the terms of that license were not negotiable.* Subsequently a non-standard license was offered by letter dated August 20, 1968. (J.A. 20) (emphasis supplied)

should grant certiorari and assert that a tying clause in a license granting rights under a patent-in-suit is sufficiently related to that patent to call into play the doctrine of patent misuse if that patent covers a process in connection with which an unlawful tying arrangement is utilized.[7]

VI. REASONS FOR GRANTING THE WRIT

This Court has not dealt with the question of infringement since the passage of the 1952 Patent Act. Meanwhile, since its passage, courts have adopted a wide variety of different standards with respect to both the doctrine of equivalents and the extent to which resort to equivalents is barred by file wrapper estoppel. Thus, in many instances as exemplified by the opinions below, patent claims are failing to serve their primary function of informing the public of what they can and cannot do. Indeed, they are a trap for the unwary since businessmen cannot rely on the words of claims so as to be put on notice as to the scope of the monopoly granted. Instead, even with respect to limitations which are inserted by amendment, business-

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[7] There was some suggestion in the opinion of Judge Smith that the tying provision was justified. This suggestion was not affirmed by the Sixth Circuit perhaps because Respondent Kolene's president candidly admitted that the tying provision was employed because he likes to eat. He expressed his hunger as follows:

> Q. Now, do you know of any reason why you could not furnish your specifications for the salts that are put in that you sell? A. Yes. *The principal reason is I have a good appetite and I like to eat.*
>
> Q. Perhaps you could elaborate on that?
>
> A. Our whole business is in salts. This is how we make our livelihood, *so to furnish the specification so that they may purchase salt from other people would simply meant that we couldn't continue to exist.* (J.A. 230) (emphasis supplied).

men must bear in mind that an Appellate Court several years later may decide to disregard that very limitation. This result is surprising since this Court held prior to the 1952 Patent Act that any limitation introduced into a claim is binding upon the patentee and such a claim limitation cannot be expanded by the doctrine of equivalents. *Exhibit Supply Co.* v. *Ace Patent Corp.*, 315 U. S. 126, 136, 137. However, this holding has not been rigorously followed in many cases and certainly was not followed below.

For example, the Fifth Circuit has stated, albeit in dicta, that the only abandonment by amendment that may occur in the Patent Office is where the prior art forced such an abandonment. *Hunt Tool Co.* v. *Lawrnece*, 242 F.2d 347, 353-354 (5th Cir. 1957).[8] This approach eliminates the doctrine of file wrapper estoppel completely since an estoppel is not required to prevent expansion of a claim by the doctrine of equivalents if the prior art itself precludes such expansion. Nevertheless, without expressly citing *Hunt*, the Courts below followed it.[9] But the purpose of

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[8] The Court stated in part:

> Also, since the patent examiner's objection was with reference to the prior art, appellants are protected by file wrapper estoppel only if they can show that their alleged infringement is in an area to which the prior art could possibly have been thought to extend so as to make it impossible to make valid claims there, for there is no reason to presume that applicant made a disclaimer broader than necessary to the actual challenge to his claim, . . . 242 F.2d at 354.

[9] For example, Judge Smith stated:

> But it is significant, at this point to note that the examiner did not reject on the basis that the prior art showed a process over which applicant distinguished solely on the matter of the maximum level of cyanate, which is the bone of contention at this point. Had he done so, a substantial question might arise, but such was not the case. 307 F. Supp. at 1259, 34a.

patent claims is to notify the public of the precise scope of the patent monopoly granted, 35 U. S. C. § 112. Nevertheless, in the Sixth Circuit, as well as in other Circuits that have refused to strictly construe limitations added by amendment, businessmen must go to the trouble and expense of developing all prior art when studying each patent claim and then make an educated guess as to whether in view of that art an Appellate Court will expand the scope of the claim beyond its literal meaning even when the limitation in question was introduced into the claim by amendment. The resultant uncertainty creates a great potential for mischief on the part of large and powerful patentees.

The doctrine of equivalents has not, however, run rampant in all circuits. There are decisions where the doctrine has received a hostile reception because if routinely applied it completely subverts the policy of requiring an inventor to particularly and distinctly claim his invention. For example, Judge Blackmun, now Mr. Justice Blackmun, when writing for the Eighth Circuit in the case of *Parmelee Pharmaceutical Co.* v. *Zinc,* 285 F.2d 465, 471 (8th Cir. 1961), stated that the doctrine of equivalents should be applied only when the claiming burden upon the patentee is so inequitable as to merit some form of extraordinary relief. However, unfortunately, the doctrine is routinely applied in lower courts and what is worse, the doctrine of file wrapper estoppel has not served as a bulwark against its abuse.[10]

[10] For example, in *Unilectric, Inc.* v. *Holwin Corp.*, 243 F.2d, 393, 399 (7th Cir. 1957) the Court found no estoppel because it classified the cancellation of a broad claim as "voluntary". On the other hand, the Court in *Carter Products Inc.* v. *Colgate Palmolive Co.*, 269 F. 2d 299 (4th Cir. 1959) appears to have strictly followed the decisions of this Court. Nevertheless, one has only to briefly

Indeed, file wrapper estoppel is a trap for the unwary. In most cases its existence is a myth perpetuated by the language of this Court's decisions. This is so because instead of following this Court's direction to strictly construe a limitation inserted into a claim by amendment, Courts such as the Courts below often indulge in a search for what the applicant in fact meant to disclaim in the Patent Office. It is not then surprising that, when an Appellate Court determines that an invention is broader than the claims in the patent, the same Court finds as a fact that no disclaimer of the broader invention occurred in the Patent Office.

For example, the Sixth Circuit determined that Petitioner's 50% cyanate process was not disclaimed below when Respondents deliberately inserted the limitation "about 25-40% cyanate" even though Respondents called the 25-40% range "critical." In fact, there was no disclaimer according to the Sixth Circuit because in that Court's view, the 25-40% limitation was unnecessary and added nothing to the patentability of abandoned application claim 1. Hence, no file wrapper estoppel. But in *Exhibit Supply Co.* v. *Ace Patent Corp.*, 315 U. S. 120, 136-137, this Court stated that a limitation added by amend must be strictly construed even if the examiner was wrong in rejecting the claim as filed.

Other than the case at bar, perhaps the most striking recent example of the failure of the courts to follow this

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look at the annotation to 35 U.S.C.A. § 112 to learn that Mr. Justice Black was correct when he stated when dissenting in *Graver Tank* v. *Linde*, 339 U.S. 605 that, "One need not be a prophet to suggest that today's rhapsody on the virtue of the doctrine of equivalents will . . . make enlargement of patent claims the rule rather than the exception." 339 U.S. at 616.

Court's decisions on file wrapper estoppel is found in the two opinions of the First Circuit in *Borg-Warner Corp. v. Paragon Gear Works*, 146 U. S. P. Q. 507 (1st Cir. 1965); 355 F.2d 400 (1st Cir. 1965). In its first opinion the Court applied the doctrine of file wrapper estoppel to a limitation introduced by amendment and found no infringement even though the accused structure was an equivalent, 146 U. S. P. Q. 507. However, this opinion was withdrawn and the Court of Appeals then changed its mind and decided that really the limitation which was inserted into the claims in the Patent Office was not in fact intended to limit the scope of the patent monopoly and hence could be disregarded, 355 F.2d 400.

Therefore, in view of the varying approaches to infringement followed by the various circuits, and since this Court has not dealt in an opinion with the issue of patent infringement since the enactment of the 1952 Patent Act, and further because of the manifest injustice to Petitioner if the decision below is left standing, the case at bar is an appropriate vehicle for this Court to reconsider the law of patent infringement and reassert the primacy of claims as defining the patent monopoly. This reexamination is particularly appropriate in view of the following statement of Mr. Justice White writing just last term for a unanimous Court in *Blonder-Tongue* v. *Univ. of Illinois Foundation*, 91 S. Ct. 1434; 28 L. Ed. 2d 788:

> When these judicial developments are considered in the light of our consistent view—last presented in *Lear, Inc. v. Adkins*—that the holder of a patent should not be insulated from the assertion of defenses and thus allowed to exact royalties for the use of an idea that is not in fact patentable or *that*

> *is beyond the scope of the patent monopoly granted,* it is apparent that the uncritical acceptance of the principal of mutuality of estoppel expressed in *Triplett* v. *Lowell* is today out of place. 91 S.Ct. at 1434, 28 L.Ed. 2d at 811 (emphasis supplied).

The uncritical and routine application of the doctrine of equivalents is equally out of place and should be replaced by an approach where the doctrine is invoked only in rare and unusual circumstances.[11] Further, this Court should reaffirm that a claim limitation inserted by an amendment cannot be expanded by the doctrine of equivalents. Such a ruling would clearly require reversal of the decision below, a reversal which would reassert the primacy of claims and reaffirm that "businessmen are certainly entitled to know when they are committing an infringement." *Aro Mfg. Co.* v. *Convertible Top Replacement Co.*, 365 U.S. 336, 358 (Black, J., concurring).

Turning to the question of misuse, this Court should grant certiorari on the issue of misuse in order to reaffirm its historic view that patents cannot be used to monopolize unpatented components, *Mercoid* v. *Mid-Continent Inv. Co., Inc.*, 320 U.S. 661; *Blonder-Tongue* v. *Univ. of Illinois Foundation*, 91 S. Ct. 1434, 1450; 28 L. Ed. 2d 788, 808. Thus, the practices of the Respondents with respect to captive shops are an unlawful form of tying since this Court has held that a patentee who owns a process patent may not grant implied process licenses to users of unpatented products used in the patented process by virtue of selling such unpatented products to users of the patented

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[11] The basis for such a rule is clearly set forth in the opinion of Judge Blackmun, now Mr. Justice Blackmun, writing for the Eight Circuit in *Parmelee Pharmaceutical Co.* v. *Zinc*, 285 F. 2d 465 (8th Cir. 1961).

process while at the same time enforcing the patent and refusing to grant written process licenses. *B. B. Chemical Co.* v. *Ellis*, 314 U. S. 495; *Leitch Mfg.* v. *Barber*, 302 U. S. 458. Now this tactic is lawful, unless certiorari is granted, at least in the important industrial states which make up the Sixth Circuit.

Next, this Court should stop in the incipiency the technique approved by the Sixth Circuit for using unlawful tying provisions in the licensing of process patents, i.e. the technique of licensing a trademark along with the patent and then asserting when challenged in a patent infringement suit that it is the trademark that forms the basis for the tying provision rather than the patent.[12] Indeed, of course, this is absurd since when a process is dominated by a patent it is the market power of the patent which is important and which the licensee is obtaining relief from when he accepts a license. As might be expected, Petitioner has had no difficulty competing with Respondents' licensee in the Detroit area even though Petitioner is not using the trademark Tufftride. However, if this Court refuses to grant certiorari and reverse, Petitioner will be out of business. Similarly all heat treaters licensed by Respondents would be out of business if their patent licenses were lost, but each such licensee could continue effectively in business after losing the right to use the mark Tufftride in connection with their use of the patented process. Certainly the patent-in-suit is powerfully con-

[12] It may also be necessary to offer to the infringer just prior to trial a license without the unlawful tying provision. Respondents adopted this tactic after insisting for years during the pendency of the suit that settlement was possible only if Petitioner would sign the standard license which included the offensive tying provision. (J.A. 20).

nected to the illegal tying provision. Hence, the decision below would appear to conflict with the recent decision of the Second Circuit in *Ansul Co.* v. *Uniroyal, Inc.*,.... F.2d ..., 169 U. S. P. Q. 759, 763-765 (2nd Cir. 1971) decided April 29, 1971 in regard to the necessary relationship between the patent and the unlawful practice before a misuse of the patent is found. In addition, it appears to be clearly in conflict with the principles set out in *Switzer Bros.* v. *Lochlin*, 297 F.2d 39, 46 (7th Cir. 1961) where the Seventh Circuit rejected a trademark defense substantially identical to the trademark defense accepted by the Courts below.

VII. CONCLUSION

In view of the above, certiorari should be granted on the issues of infringement and misuse.

Respectfully submitted,

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No. 20107

UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT

KOLENE CORPORATION, AND DEUTSCHE GOLD-UND-SILBER SCHEIDEANSTALT VORMALS ROESSLER,

Plaintiffs-Appellees,

v.

MOTOR CITY METAL TREATING, INC.,

Defendant-Appellant.

APPEAL from the United States District Court for the Eastern District of Michigan, Southern Division.

Decided and Filed March 9, 1971.

Before PHILLIPS, Chief Judge, and PECK and BROOKS, Circuit Judges.

PHILLIPS, Chief Judge. This is an appeal from the order of the District Court holding a patent valid and infringed. We affirm.

For an extensive discussion of the facts of the case reference is made to the opinion of District Judge Talbot Smith, reported at 307 F.Supp. 1251 (E.D. Mich.). A summary of pertinent facts will be stated in this opinion to the extent necessary to dispose of the issues presented on appeal.

The Prior Art

The patent in suit, U.S. Letters Patent No. 3,022,204, concerns the treatment of metals to improve their strength and wear properties. At the time of the invention both inventors were employees of Deutsche Gold-und-Silber Scheideanstalt Vormals Roessler (hereinafter referred to by its tradename "Degussa"), a German corporation.

Kolene is the exclusive licensee of the patent in the United States.

In the early 1950's, the treatment of metals to upgrade their strength and wear properties was carried out by two distinct conventional nitriding processes, "gas nitriding" and "liquid nitriding."

"Gas nitriding" is carried out by placing the steel part to be treated in a chamber at a temperature of about 520° C. and then passing into the chamber a current of ammonia gas for at least 24 hours.

"Liquid nitriding" is practiced by placing the steel part to be treated in an aged salt bath containing a cyanide salt at a temperature of 565° C. One of the effects of the aging is that, at the surface of the bath, a portion of the cyanide salt reacts with oxygen in the air to form cyanate, 2CN (cyanide) + O_2 (oxygen) = 2CNO (cynate). This surface aeration creates a bath having 5-15% cyanate.

Both these processes operated to harden the surface of the treated part but they had serious side effects, one of which was causing the part to distort and become very brittle. The processes also took considerable time, were extremely expensive, and were limited to specific applications. They could not be used to nitride low carbon steels.

Around 1954 Dr. Muller, a metallurgist employed by Degussa, discovered that by operating a liquid nitriding process with a bath having a relatively high cyanate content (ie., roughly 30%), the wear resistance of a treated workpiece was substantially improved without the previously attending brittleness. At least by 1958 Dr. Muller had discovered that a 30 per cent cyanate bath process also remarkably increased the fatigue resistance of low carbon steels. Both these discoveries became part of the prior art

with respect to the patent in suit by virtue of Dr. Muller's publications acclaiming their merits. To describe the newly discovered process, Dr. Muller coined the phrase "soft nitriding," which contrasted the new process with the brittleness of workpieces treated by the old liquid and gas nitriding processes.

The original "soft nitriding" process saw considerable exploitation in Europe, but after some time it was found to have one fatal drawback—the lack of uniformity. As a result of this deficiency, use of the process was discontinued. Thus, as found by the District Judge, the original "soft nitriding" process was a commercial failure.

The Invention

In February of 1959, Dr. Muller, and Carl Albrecht, another Degussa technical employee, jointly conceived the idea of bubbling air up through the salt bath (a technique referred to as "sub-surface aeration" or simply "aeration"). Aeration of the 30 per cent cyanate bath proved to be the key to uniformity. Moreover, for some as yet unexplained reason, the quality of the process was improved. This improved process was also referred to as "soft nitriding" but was introduced in this country by Kolene under the servicemark "TUFFTRIDE."

The Prosecution History of the Patent

In October 1959, a patent application (Serial No. 844,382) was filed in the U. S. Patent Office in the name of Dr. Muller. This application was directed to the non-aerated process which employed a bath having at least 30 per cent cyanate. This application was abandoned in 1962.

In the meantime, on March 25, 1960, an application (Serial No. 17,541) had been filed on the process of the present invention. Claim 1 of this application read:

"1. A method of treating metals having a surface adapted for nitriding which comprises immersing such metals in a fused salt bath containing alkali metal cyanide and alkali metal cyanate maintained at a temperature between 500 to 600° C while passing a finely divided oxidizing gas through said fused salt bath."

This claim was rejected on the basis of a British patent disclosing a process for treating metals which included a bath having up to 15 per cent cyanate and with an ammonia gas bubbling up through the bath. A second rejection was made on the basis of the British patent in view of Dr. Muller's earlier U. S. patent No. 2,927,875, which disclosed the non-aerated bath of 30-40 per cent cyanate.

In response to this rejection, applicants' attorney canceled claim 1 and substituted the following:

"12. A process comprising immersing a metal workpiece in a molten alkali metal salt bath comprising between about 25 and 40% cyanate, at least about 50% cyanide, the remainder being substantially carbonate, the said bath being free of sulfur, selenium and tellurium, while aerating the bath with an oxygen-containing gas introduced in well-distributed fine bubbles."

After a number of conferences with the Examiner and persuasive written argument (which we will consider later in this opinion), claim 12 was allowed. Claim 12 was then transferred to an application filed March 20, 1961, Serial No. 97,060, which application materialized into the patent in suit. Claim 12 was numbered as claim 1 in the latter application and in the patent, and that claim is the center of the present controversy.

The Alleged Infringement

Motor City, the appellant, is something of a spin-off of Commercial Steel Treating Corporation, another Detroit heat treating establishment which worked with Kolene in exploiting the invention in the early days of "TUFFTRIDING." Mr. Miel, the present controlling stockholder of Motor City, was president of Commercial at that time. When Commercial and Kolene had a parting of the way, Miel left Commercial and established Motor City for the purpose of heat treating metals under a process called "CYNATRIDE." The "CYNATRIDING" process of Motor City involves immersing a workpiece in an aerated salt bath having something between 46 and 50 per cent cyanate.

No improvement in the process results from using a bath with 46-50 per cent cyanate as compared to a bath with cyanate in the exact range of 35-40 per cent. This per centage of cyanate was selected, according to Miel, on advice of counsel to avoid infringement of the patent.

In response to the instant suit, Motor City defends on the grounds that: (1) The patent is invalid, (2) the accused process does not infringe, (3) the patent is unenforceable because of fraud on the Patent Office in its procurement, and (4) the patent is unenforceable because of plaintiff's misuse. We shall consider each of these defenses separately since the pertinent considerations differ for each.

Invalidity

Motor City admits that the patented process is new and novel, but contends that is is obvious within the meaning of that term in 35 U.S.C. § 103.

The question of "obviousness" in determining patent

validity is a mixed question of both fact and law. *Kaiser Industries* v. *McLouth Steel Corp.*, 400 F.2d 36, 41 (6th Cir.); *National Filters, Inc.* v. *Research Products Corp.*, 384 F.2d 516 (5th Cir.); *Hensley Equipment Co.* v. *Esco Corp.*, 375 F.2d 432 ((9th Cir.). In ruling on the question the Supreme Court said:

> "(1) Under Section 103, the scope and content of the prior art are to be determined;
>
> "(2) Differences between the prior art and the claims at issue are to be ascertained;
>
> (3) And the level of ordinary skill in the pertinent art resolved.
>
> "(4) Against this background, the obviousness or non-obviousness of the subject matter is determined.
>
> "(5) Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or non-obviousness, these inquiries may have relevancy." [Note: Clauses separated and numbered for convenience.] *Graham* v. *John Deere Co.*, 383 U. S. 1, 17.

When the District Court determines items numbered 1, 2 and 3, it makes findings of fact which are binding on appeal unless the findings are clearly erroneous. Rule 52(a), Fed. R. Civ. P. It is the ultimate determination of the trial judge (item number 4 above) which is a conclusion of law with which this Court may disagree based on the established findings of fact. See *Monroe Auto Equipment Co.* v.

Heckethorn Mfg. & Sup. Co., 332 F.2d 406 (6th Cir.), cert. denied, 379 U. S. 888.

We will not review Judge Smith's findings of fact except to point out that he found that nothing in the prior art suggests aeration of the 30 per cent cyanate bath. We are in complete agreement with that finding and his conclusion that the invention was not obvious at the time it was made.

We note that the known reaction of cyanide with oxygen to produce cyanate and the known beneficial effect of a liquid nitriding process operated with a 30 per cent cyanate bath would not have made the claimed invention obvious to one skilled in the heat treating art at the time the invention was made. When the effect on the process of the 30 per cent cyanate bath became known, the art would suggest that any aging or oxidation would no longer be necessary, since the purpose and effect of aging was to raise the cyanate level of the bath to about 15 per cent. Assuredly nothing in the prior art would suggest aeration of the 30 per cent cyanate bath.

Infringement

The District Court found that the accused process infringed Claim 1 of the patent in suit. Motor City alleges that this was error for two reasons. First, it says that the accused process does not come within the scope of protection of the patent because the claim does not literally "read on" Motor City's process. Second, while apparently admitting that the accused process is the full equivalent of the patented process, Motor City contends that the plaintiffs are estopped, by virtue of the doctrine of file wrapper estoppel, from enforcing this patent against the

accused process. We conclude that both these points of alleged error are without merit.

On the question concerning the literal reading of the claim, we first emphasize that the patent is directed to a process and that the claim specifies the steps of immersing a workpiece in a bath while aerating the bath. Motor City's process employs both these steps. We do not intend to imply that the ingedients of the bath are not important. The process is ineffective with a bath having less than 25 per cent cyanate. In that sense, the percentage of cyanate is critical—as was pointed out during prosecution before the Patent Office by applicants' attorneys.

The limits of the claimed percentages were established on the basis of different considerations. The lower limit was operational (*i.e.*, the process would not achieve the desired result below about 25 per cent), and the upper limit was practical (*i.e.*, because of a sludge problem it was not economical to operate above about 40 per cent). When the sludge problem was solved and it became feasible to operate at 46-50 per cent cyanate, we agree that for practical purposes this was within the range defined by the claim. We therefore agree with the District Court that the claim literally reads on the accused process. Our decision on this point is also affected by the fact that Motor City chose the 46-50 per cent cyanate operating level for no other purpose except to avoid infringement of the patent.

Motor City contends that it is protected by the doctrine of "legitimate design around," which recognizes the right of one to look at a patent, make a good faith determination of its scope of protection and then design a process or product that skirts that protection. We recognize that doc-

trine, but also recognize its underlying purpose—namely to encourage research which will develop new ways of doing the same thing. In this case, Motor City has done nothing new. It has done nothing more than merely appropriate the patentees' idea. This court does not condone that type of piracy.

Since we agree with the District Court that the accused process infringes by a literal reading of the claim, according to the statement of the Supreme Court in *Graver Tank & Mfg. Co.* v. *Linde Air Products Co.*, 339 U. S. 605, 607, "that is the end of it." However, since Motor City presses so vigorously the doctrine of file wrapper estoppel, we consider the contention briefly. The doctrine of file wrapper estoppel can be involved only after infringement has been shown through application of the doctrine of equivalents. Since the accused process requires the same steps and operates in the same manner, to achieve the same results as the patented process, there is no question that it is an infringement under the doctrine of equivalents. The only question then is whether the owners of the patent are estopped, under the doctrine of file wrapper estoppel, from enforcing the patent against the accused process. This will be determined by a consideration of the events that transpired in the Patent Office.

We have already noted that applicants' attorneys emphasized the lower percentage of cyanate in the bath as critical. However, as was recognized by the District Court, the percentage of cyanate was critical to the process, not to the patentability of applicants' invention. Applicants discovered the beneficial effects on the process of aeration of the bath. This was what they represented as their contribution to the art originally and they maintained that

position throughout the prosecution before the Patent Office. By adding to the claim the operable percentage limits applicants did not disclaim those percentages that were equivalent thereto. We specifically note that in his remarks to the rejection of claim 1 on the basis of the British Patent, applicants' attorney took the position that the reference was "inapplicable even to claims 1 and 2 in their original scope." A review of the entire prosecution history of this patent convinces us that protection of the *aerated* process was applicants' primary concern, and the references to the percentages of cyanate in the bath as being critical were intended to define an operative process, and to call the Examiner's attention to the differences in the process and the prior art generally rather than to distinguished the cited prior art in terms of patentability. We therefore agree with the District Court that no file wrapper estoppel exists and that the accused process infringes by application of the doctrine of equivalents.

Alleged Fraud on the Patent Office

The District Court found that there was no evidence of fraud since Motor City had only referred to the file wrapper in support of this defense. While we recognize that in some cases the file wrapper may be sufficient evidence of the defense of unenforceability because of fraud in procurement of the patent, that situation does not exist in this case.

The District Court found that the patent application itself disclosed the prior art 30 per cent cyanate process, 307 F.Supp. at 1262, and that finding is not clearly erroneous, Rule 52(a), Fed. R. Civ. P.

We agree with the District Court that the file wrapper is replete with instances where the Examiner was advised

that the 30 per cent cyanate bath was prior art. The Examiner must be given credit for the ability to recognize the inference that seemed unquestionably clear to the District Court and is equally clear to this Court.

In a supplemental brief Motor City has called to our attention a recent case from the Court of Custom and Patent Appeals, *Norton* v. *Curtiss,* 433 F.2d 779, which considered the defense of fraud in the context of a priority determination. The *Norton* case considered fraud of two types: (1) technical fraud which is actionable in itself, and (2) an unclean hands defense based on inequitable conduct.

Clearly there is no technical fraud in the present case. We already have held that the claim in question is valid in spite of the allegedly withheld prior art.

The record convinces us that they lacked the "scienter" or fraudulent intent that is an integral part of the defense of fraud. When they applied for their patent, applicants were concerned with their discovery regarding the beneficial effect of aeration. There is nothing in the record to evidence that they thought that the prior art 30 per cent cyanate bath was pertinent, in a patentability sense, to their discovery. The record discloses to our satisfaction that the argument of applicants to the Examiner was made in good faith and there was no breach of the duty of candor before the Patent Office.

Patent Misuse

The primary business of Kolene is the sale of salts to make the cyanate bath and equipment for use in the "TUFFTRIDE" process. It sells to two different types of customers: (1) captive shops, and (2) heat treaters.

Captive shops are establishments such as Ford Motor Company and General Motors, which are only interested

in treating their own parts in an in-house operation. They accept no parts for treatment from outside sources and do not advertize their practice of the process either under a servicemark or otherwise. Kolene has an established and publically announced policy that any concern desiring to use its patented process in a captive shop operation is free to do so and that no license is needed for such activities. Kolene takes the position that the more people that use the process, the more it will make from the sale of salts and equipment. It says that it is a good supplier and relies on that effort to get business. About 98 per cent of Kolene's business comes from captive shops.

Heat treaters are independent businesses which offer as a service to anyone the treatment of parts pursuant to Kolene's process. All the heat treaters presently in operation are licensed under the registered servicemark "TUFFTRIDE" and as a consequence of their licenses they are required to purchase all salts used in the cyanate bath from Kolene. Although they do not have a license under the patent, Kolene has made no claim of patent infringement against these servicemark licensees.

Motor City contends that Kolene's patent is unenforceable on the theory that it has misused the patent by requiring heat treaters to purchase their salts from it. The District Court found as a fact that if any tie-in existed, it was between the servicemark "TUFFTRIDE" and the sale of salts, not the patent and the sale of salts. We hold that this finding is not clearly erroneous.

Motor City urges on appeal, however, that the patent and servicemark are so interrelated that, even accepting the finding of the District Court, there is still patent mis-

use. This theory presents a novel issue for which we can find no case directly on point.

The patent misuse defense is bottomed on public policy considerations. The defense is not a personal one in the sense that the misuse must be directed at the infringement suit defendant. This point was expressed by the Supreme Court in *Morton Salt Co.* v. *G. S. Suppiger Co.*, 314 U. S. 488, where, at 494, the Court said:

> "It is the adverse effect upon the public interest of a successful infringement suit, in conjunction with the patentee's course of conduct, which disqualifies him to maintain the suit, regardless of whether the particular defendant has suffered from the misuse of the patent."

However, as the Court had previously noted at page 493:

> "Undoubtedly 'equity does not demand that its suitors shall have led blameless lives,' *Loughran* v. *Loughran*, 292 U. S. 216, 229; cf. *Keystone Driller Co.* v. *Excavator Co.*, 290 U. S. 240, 241-45, but additional considerations must be taken into account where maintenance of the suit concerns the public interest as well as the private interests of suitors. Where the patent is used as a means of restraining competition with the patentee's sale of an unpatented product, the successful prosecution of an infringement suit even against one who is not a competitor in such sale is a powerful aid to the maintenance of the attempted monopoly of the unpatented article, and is thus a contributing factor in thwarting the public policy underlying the grant of the patent. Maintenance and enlargement of the attempted monopoly of the unpatented article are dependent

> to some extent upon persuading the public of the validity of the patent, which the infringement suit is intended to establish. Equity may rightly withhold its assistance from such a use of the patent by declining to entertain a suit for infringement, and should do so at least until it is made to appear that the improper practice has been abandoned and and that the consequences of the misuse of patent have been dissipated. Cf. *B. B. Chemical Co.* v. *Ellis, post*, p. 495."

We know of no authority suggesting that there can be a defense to a patent infringement suit based on "misuse in the air." See *Republic Molding Corp* v. *B. W. Photo Utilities*, 319 F.2d 347 (10th Cir.). The misuse must be of the patent in suit, *Binks Mfg. Co.* v. *Ransburg Electrocoating Corp.*, 281 F.2d 272 (7th Cir.), *cert. granted*, 364 U. S. 926, *writ dismissed*, 366 U.S. 211; *Apex Electrical Mfg. Co.* v. *Altorfer Bros. Co.*, 238 F.2d 867 (7th Cir.); *Sperry Products, Inc.* v. *Aluminum Co. of America*, 171 F.Supp. 901 (N. D. Ohio), *rev'd in part on other grounds*, 285 F.2d 911 (6th Cir.), *cert. denied*, 368 U.S. 890. An antitrust offense does not necessarily amount to misuse merely because it involves patented products or products which are the subject of a patented process. *Hazeltime Research, Inc.* v. *Automatic Radio Mfg. Co.*, 77 F.Supp. 493, 498 (D. Mass.), *aff'd*, 176 F.2d 799 (1st Cir.), *aff'd*, 339 U. S. 827.

As a limit on the misuse doctrine, it can be stated generally that the misconduct must be connected with the matter in litigation, and the defense is not available to a party with whom the misconduct is of no concern, *McCullough Tool Co.* v. *Well Surveys, Inc.*, 395 F.2d 230, 238 (10th Cir.), *cert. denied*, 393 U. S. 925.

Applying these principles to the instant case, we find that Motor City has no cause to complain of the alleged misconduct of Kolene. Motor City is not a party to the allegedly illegal contracts, and a realistic analysis does not show that the patent in suit "itself significantly contributes to the practice under attack." See, *Report of the Attorney General's Committee to Study the Antitrust Laws* 251 (1955). This realistic analysis includes considering the fact that 98 per cent of Kolene's business does not involved the alleged misconduct. Moreover, it is only when someone wants to use the process *in connection with Kolene's registered servicemark* (at which time Kolene's reputation goes on the line) that they are required to purchase salts from Kolene. The record shows that Kolene is willing to license its process to heat treaters without the allegedly illegal tie-in but only when the licensee refrains from use of Kolene's servicemark. This offer was made to Motor City in the present case. Neither the right to use the servicemark, *e.g., Switzer Bros., Inc.* v. *Locklin*, 297 F.2d 39 (7th Cir.), *cert. denied*, 369 U.S. 851, nor the sale of salts, *e.g., Susser* v. *Carvel Corp.*, 332 F.2d 505 (2d Cir.), *cert. granted* 379 U.S. 885, *cert. dismissed*, 381 U.S. 125, is tied to the right to practice the invention of the patent. Hence, the patent is not a lever used to extend a legal monopoly. *Cf. Ansul Co.* v. *Uniroyal, Inc.*, 306 F.Supp. 541 (S.D.N.Y.).

Affirmed and remanded.

No. 20,107

UNITED STATES COURT OF APPEALS
FOR THE SIXTH CIRCUIT

KOLENE CORPORATION, AND DEUTSCH GOLD-UND-SILBER SCHEIDEANSTALT VORMALS ROESSLER,

Plaintiffs-Appellees,

v.

MOTOR CITY METAL TREATING, INC.,

Defendant-Appellant.

ORDER

Before PHILLIPS, Chief Judge, and PECK and BROOKS, Circuit Judges.

This cause is before the court upon defendant-appellant's petition for correction of the opinion, for a rehearing or a rehearing in banc, filed March 24, 1971, and plaintiffs-appellees' motion to strike the petition.

None of the judges of this court who are in regular active service having made a suggestion for a rehearing in banc, the petition for rehearing has been referred to the panel which originally heard the case.

This court having not intended in any way to reflect on appellant or its counsel personally, it is ORDERED that the petition for correction is granted to the extent that the word "piracy" in the fifteenth line of page eight of the slip opinion is deleted and the word "activity" substituted therefor. It is further ORDERED that in all other respects the petition for correction and for rehearing be and hereby is overruled. The motion of plaintiffs-appellees to strike likewise is overruled.

Entered by order of the Court.

/s/ CARL W. REUSS, Clerk

UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

KOLENE CORPORATION

v.

Plaintiff,

MOTOR CITY METAL TREATING, INC.,

Defendant.

Civil Action
No. 25283

(Tr-26a)

OPINION
(Filed July 28, 1969)

Smith, District Judge

This case involves a process patent. The use of the process on certain metals, particularly ferrous, results in a tough and wear resistant surface, with greatly increased fatigue strength. Thus "Helicopter rotor blade dampers have service life tripled."[1] It has been described as a "new technology" and there is no doubt that the description is accurate. But this case has an unusual circumstance, new in our experience at least, of significance in some phases of the case. Although we have heard extensive oral testimony, have seen moving pictures, have examined many documents and depositions (the parties have prepared and tried the case with great care), have examined metallic pieces treated by the process, as well as much trade literature, we have yet to be told just how or why the process works as it does. The parties disagree and their experts disagree. We will examine this matter further in due course.

[1] Automotive Industries, May 14, 1962. Ex. 10

The parties before us are Plaintiff Kolene Corporation (hereafter Kolene), a Michigan corporation, doing business at 12890 Westwood Avenue, Detroit, Plaintiff Deutsche Gold-Und-Silber Scheideanstalt Vormals Roessler (hereafter referred to as Degussa, its trade name), a corporation of the Federal Republic of Germany with offices in Frankfurt-am-Main, West Germany, both collectively referred to hereafter as the plaintiff, and Defendant Motor City Metal Treating, Inc. (hereafter Motor City), a Michigan corporation doing business at 3400 Dunn Road, Detroit.

Involved here is Claim 1 of U.S. Patent No. 3,022,204, (Tr-27a)

issued February 20, 1962 on an application filed by Johannes Muller and Carl Albrecht. The patent is entitled "Process for Nitriding Metals." The plaintiffs claim that the defendant is guilty of infringement and seek an injunction and an accounting.

The defendant alleges that the patent-in-suit is invalid, due to obviousness, and moreover, that the patent is not infringed by the defendant's accused process. In addition, the defendant asserts that the patent in unenforceable and invalid because of alleged fraud on the Patent Office and misuse by the plaintiffs. Defendant also counter-claims for treble damages under the Federal Anti-Trust laws on the ground that the plaintiffs practiced a fraud on the Patent Office in securing the patent, such fraud arising from an alleged failure to advise the Patent Office of the best prior art and in making deliberate misrepresentations to the Patent Office. There is no issue as to jurisdiction of this Court, title to the patent-in-suit, or notice of infringement. There is no serious dispute that the defendant's principals and organizers had knowledge of the

patent-in-suit when defendant was organized in October of 1963, when the defendant began its alleged infringing activities and, actually, at an even earlier date, that is, when they were associated with another company, Commercial Steel Treating, prior to mid-1963, and shortly after the issuance of the patent in February of 1962.

Prior to the issuance of the patent-in-suit there was extensive metal-treating history relating to what is called "nitriding." This term, broadly speaking, refers to the casehardening of a piece of metal by the use of nitrogen.[2]

(Tr-28a)

The prior art background of the heat treating of metals begins with gas and liquid nitriding processes.[3] The use of these processes was restricted to certain of the ferrous alloys since they were not usable on all ferrous materials, such as cast iron. The gas and liquid processes were lengthy and expensive, the former (subjecting the piece to a high temperature nitrogen gas atmosphere) being used particularly for parts where high cost was not a factor, such as in selected governmental and aircraft operations. In the liquid nitriding processes (such as Chapmanizing, which involved heating in the range of 1550 to 1600° F, Malcomizing, Kaliding, and others) the part

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[2] "* * * a process of casehardening steel by impregnating with nitrogen * * *" Webster's Third New International Dictionary, 1961.

[3] Dr. Muller's article in Das Industrieblatt, Stuttgart, September, 1954, "Nitriding Steel in the Salt Bath" contains a descriptive comment, in referring to the use of ammonia as the nitriding agent, of the mechanism of the nitrogen penetration into steel. "The atomic nitrogen which is formed in this decomposition process is extremely reactive before it recombines to form a nitrogen molecule N_2,—it is able to penetrate the steel surface and to diffuse into the steel."

was immersed in a high temperature molten cyanide bath for prolonged periods of time.

To those skilled in the art the term nitriding was synonymous with marked disadvantages. It did, it is true, result in a wear-resistant surface on some ferrous metals but at the cost of brittleness, lengthy treatment, and high costs. In addition, there was the problem of distortion in the processing. Mr. Michael Soviak, the Chief Metallurgist at Commercial Steel Heating Corporation, testified by deposition and referred in part to the difficulties involved

(Tr-29a)

due to the high temperatures used. "* * * We had a tremendous problem with this thing, using carbo-nitriding and cyanide treatments of all kinds where we had to heat to a high temperature and quench. * * *" And at a later point, "One of the biggest headaches in our business is distortion. We carry a battery of straighteners that are expensive and their job is to straighten things that distort." In addition, of course, the original dimensions of the piece had to take into account the machining and grinding required to correct the distortion resulting from the process. Under these circumstances there was a real need for a commercially feasible, non-distorting process that would impart to ferrous materials both wear resistance and fatigue resistance and at the same time maintain ductility, thus avoiding brittleness. It should, as well, be economically feasible.

In approximately 1954 Dr. Johannes Muller, a Chemist and Metallurgist who was employed by plaintiff Degussa, developed a "soft" nitriding process which anteceded

the patented process we here consider. "Soft" nitriding[4] involved using a salt bath as the nitriding medium. The active ingredients were sodium cyanide or potassium cyanide or mixtures of both. Dr. Muller states (Ex. B) that the nitriding effect of sodium or potassium cyanide was the result, for example, of the oxidation of sodium cyanide to sodium cyanate. In the decomposition of the latter, nitrogen appeared to the nascent state and could pene-
(Tr-30a)
trate steel. There was thus obtained a thin, ductile, and tough "compound" layer formed of non-brittle, ductile iron-nitrides, beneath which layer a deeper nitrogen diffusion zone was found. The process was a relatively short one, requiring about 90 minutes, resulting in both increased wear and fatigue resistance, and without the sacrifice of ductility. Moreover, due to the operating temperature of approximately 1050° F. there was no significant distortion. These findings of Dr. Muller were reported in articles published in Germany, which articles form part of the prior art in this suit. We will refer to this process hereafter as the "non-aerated" process in order to distinguish it from the aerated process before us in the patent-in-suit.

Promising though it seemed in the laboratory, however, and in use on a small scale, it had one serious drawback. The results were not uniform. Commercially applied, the process was erratic to the degree that variations were not only found from batch to batch, but within parts in a single

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[4] The term arose, we are told, "because previous gas nitriding was brittle, and the opposite to brittleness was soft in the German language, I understand, so they called it 'soft nitriding'." It was a contradiction in terms in the metallurgical world since nitriding theretofore meant hardness and brittleness.

batch. Similar variations were found in both fatigue and wear resistance. Dr. Muller, himself spoke of the experience of Volkswagen, "they found one day 50 per cent [reference is here made to per cent of improvement in the fatigue properties]; another 70 per cent; another 20. So that describes the situation." As a result "They decided to not continue the tests or to introduce a process into the production or to approve it for production." Daimler-Benz stopped all test work after a certain while, * * * because of not reproducible results." In fact, Dr. Muller himself when asked whether he or his company ever used a non-aerated cyanide-cyanate bath in commercial processing answered, "I would say not really," and went on (Tr-31a)

to explain "bacause the results I got from this non-aerated bath were not consistent enough, so it was not possible to, let's say, enlarge the use in this field." When asked whether anyone used such a bath commercially in the commercial processing of work pieces, he replied that one company did (Braunschweig) but that "they threw it away after a certain while." This process, we find, was a commercial failure.

We now reach the gist of the patent. We have noted that the simple immersion of the metal in the chemicals, "soft" nitriding, although it resulted in the marked advantages described, was commercially unusable because of its fatal defects as to inconsistency and lack of uniformity. This was particularly harmful to its employment in large volume production. In 1959 one Carl Albrecht, collaborating with Dr. Muller, decided to experiment with the theretofore relatively quiescent bath by adding another step, namely, that of air-bubbling. Sub-surface air was intro-

duced into the vessel and allowed to bubble through the mixture. The results, for some reason, were not only uniformity, consistency, and large-volume reliability, but an increase in the favorable attributes (e.g. ductility) obtained from the commercially unsuccessful non-aerated salt bath. As we have noted heretofore, just why this is true no one seems to know. Counsel for both parties presented theories, as did various experts. Plaintiff's counsel thought if aeration oxidizes cyanide (as usually contended) it does so by forming a nascent cyanate in situ. This, of course, would be in addition to the already present cyanate. Dr. Muller, the patentee, theorized that when aeration forms a nascent cyanate in situ, the bath in effect contains (Tr-32a)

two forms of cyanate, a normal cyanate and an iso-cyanate. But Dr. Muller does not tell us why this reaction caused both qualitative improvement and uniformity of results. Expert witness Kates, the Director of Metallurgy for the Lindberg Steel Treating Company, admitted that "* * * I don't know the cause of the chemical thermodynamics involved but there is—the addition of air creates a catalytic effect to allow for the greater diffusion of the nitride that is formed." (Whenever an expert speaks of some sort of "catalytic" action it is merely another way of saying that an unknown factor is at work.) Expert witness Arne Mars, employed by Vickers, Inc., a division of Sperry-Rand, as Manager, Metallurgy Research and Development (this company, we note, not only has manufacturing plants within the United States but plants in Australia, Japan, Germany, England, and under construction in India and Brazil), in response to the question "Do you feel that the air oxidizes cyanide to cyanate?", "I don't know for

sure exactly if it does do that in a replenishing type of reaction which you are talking about, but there are chemical reactions that are going on, and exactly what happens, I really don't know."

From the testimony presented in Court and a review of the depositions, articles, and exhibits, the Court is satisfied that although no one can tell us precisely in what manner aeration operates to produce consistent and uniform results, together with a substantial qualitative improvement, it does do so. It is clear that when the air supply is shut off, either by mishap or deliberately, the process no longer works in the sense that it no longer produces uniform, consistent, and acceptable results. Again referring to the testimony of Mr. Mars of Vickers: "We've had some problems with no aeration. For instance, when

(Tr-33a)

our sparking ring [which introduces the air] would plug up or something and we had a lot of problems, parts were scrapped." He goes on "And without the air we just didn't get the compound layer on there." Referring to the effect of aeration, Mr. Mars referred to some tests that they had run: "This is something that we previously had done in our R and D type work, just to run a bath without air to see what happens, so when we run into a production problem we can recognize it." Question: "And you found then that without the air it did not work?" Answer: "That's right."

It is our judgment that aeration (meaning, in this context, subsurface air introduction) is the gist of the invented process before us. It is well to stress at this point that the accused patent-in-suit, is a "Process for Nitriding Metals" and that what has been patented is a process

or art. The important thing is a method of procedure, not the particular means by which the method is practiced, *Expanded Metal Co.* v. *Bradford* 214 U. S. 366 (1909) or the apparatus used in carrying it out.

So far we have emphasized the operations of Degussa and the work of the chemical experts. The way Kolene got into this matter is this: Its business is the chemical process business. The company sells the equipment and salts used in various industrial molten salt bath processes. These include descaling stainless steels, exotic metals and alloys, degraphatizing and desanding cast iron, the stripping of paints and plastics from industrial components. It deals with nearly all of the major industrial plants in the United States as well as plants overseas.

In 1958 John H. Shoemaker, the President of Kolene, (Tr-34a)

visited Degussa, which was one of its licensees in Frankfurt, Germany. At that time he was told of the then new (and later unsuccessful) "soft" nitriding process which had been developed at Degussa. The test specimens shown him were from the earlier "soft" nitriding process which did not involve the bubbling of air through the mixture. When Mr. Shoemaker returned to this country he endeavored to sell the process in the United States but was received with much skepticism and some ridicule because the term "soft" nitriding was contrary to the then accepted understanding of metallurgists that nitriding produced hardness, not softness. There was little interest shown in the process.

In the summer of 1959, however, Mr. Shoemaker re-

turned to Germany with Mr. George Bidigare. Mr. Shoemaker, who was not himself a metallurgist, desired the advice and the evaluation of an expert in the field and hence made an arrangement with Mr. Miel, at that time the President of Commercial Steel Treating of Detroit, to take with him Mr. George Bidigare, who was a highly skilled, experienced metallurgist in Commercial's employ. After some reluctance, Degussa agreed to disclose its process to Mr. Bidigare upon Mr. Shoemaker's representations that he required Mr. Bidigare's technical advice, and the process was disclosed to both gentlemen in confidence. They spent some three weeks with Degussa receiving information and dictating detailed reports, for by this time Degussa had the aerated process, it having been conceived and introduced at Degussa in February of 1959. This was the first time Mr. Bidigare had ever seen or heard of such a process and it was his opinion that the process was new and different from anything he had known before. It was at this time, during the 1959 visit to De-

(Tr-35a)

gussa, that Mr. Shoemaker coined the tradename "Tufftride." A new and more descriptive name was sought because of the resistence that metallurgists in the United States had exhibited to the term "soft" nitriding. The trade name refers only to aerated processes and has been used commercially by Kolene only to describe such process. The Court does not view the appearance of this word, from time to time in memoranda and files, and its use by translators in translating documents from German to English, to refer to the earlier non-aerated "soft" nitriding process

as significant. We find that the trademark "Tufftride" was coined and formulated by Mr. Shoemaker, was intended to refer only to the aerated process (and not the the earlier unsuccessful non-aerated process) and does commercially refer only to such aerated process which was introduced to the United States by Mr. Shoemaker. Incidentally, it is clear that the non-aerated process was never introduced into the United States. (Where the word "Tenifer" is found, it may be recognized as the trademark used in Germany by Degussa for the successful aerated high-cyanate process.)

The process-in-suit was introduced into the United States in 1959 and has been widely adopted and widely used. This, however, took considerable time and effort on the part of plaintiff Kolene and its various franchisees since as we have heretofore noted, the term "soft-nitriding" was contrary to the normal knowledge of the art and the understanding of experts in the field respecting the effect of nitriding on ferrous metals. The skepticism, however, and resistance, were overcome by the use of the process. International Harvester, for example, had been experiencing

(Tr-36a)

difficulty with its crankshafts which were breaking after being used from 100 to 150 hours. They tried this tech nique as the last straw, and found that "After the Tufftriding process, we ran 5000 hours." The process has now been adopted by many major industries in the United States and in foreign countries. Trade publications speaking favorably of the process are numerous and will be found in Exhibit 10. Some quotations therefrom will be found

in the footnotes.[5] The materials from the publications are (Tr-37a)

so voluminous that we will simply say that the record is replete with instances where the lives of all types of industrial parts such as dies, intricate stampings, automotive and engine parts, gears, as well as other pieces, have been substantially increased, and substantially improved by treatment with the process-in-suit.

The invention disclosed in the patent-in-suit, in more detail, relates to the process of aerating a cyanide-cyanate salt bath for the treating of metal parts. The application

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[5] Ex. 10, Tab 7, Tool & Manufacturing Engineer, April, 1964:

"Many parts now made of more expensive alloy steel can be made of low carbon steel and then processed to achieve desired level of engineering properties."

(p. 3) "In addition, the use of the process occasionally offers the only acceptable engineering solution to a part's performance problem."

Ex. 10, Tab 9, Machinery, March, 1965:

"An economical nitriding treatment eliminates spalling and decreases soldering of die casting dies."

"Greatly improved operation of die casting dies has been observed by nitriding them with a low temperature, short-cycle process called Tufftriding."

Ex. 10, Tab 10, Hot Rod, March, 1965:

(p. 32) "The forged steel crank, having undergone the Tufftride process, is one of the Chevy bottom end highlights." (Referring to new Chevrolet engine).

Ex. 10, Tab 11, Iron Age, July 5, 1962:

Describing an automated TUFFTRIDE system set up to treat crankshafts:

"Why did they automate Tufftriding? An unusual crankshaft design was needed for the new Willys Motors heavy duty Toronado-OHC engine. Willys wanted a tough crankshaft with the right proportions and finish to assure good bearing life."

"This made possible a lighter and simpler shaft. It also gave high mechanical efficiency to the heat treated parts."

"Machined from SAE 1045 steel forgings, the crankshafts promise higher reliability at lower costs."

was filed on March 20, 1961[6] and patent issued in 1962. Messrs Miel and Bidigare, both with defendant Motor City, thereupon sought the advice of counsel upon how best to avoid the patent. Their background and interest was this: Mr. Miel was President of Commercial Steel Treating Corporation until 1963 and thereafter became one of the organizers and the controlling stockholder of defendant Motor City. In 1959 Mr. Miel and Commercial had cooperated with Kolene in introducing the Tufftride process into the United States, afterwards splitting from Kolene. After 1963 (after Mr. Miel had left) Commercial became a franchisee. Mr. Bidigare, whom we have mentioned heretofore, also left Commercial in 1963 and was also one of the organizers of Motor City, serving as its President until 1964.

(Tr-38a)

As we have noted, after learning of the process with Mr. Shoemaker at the Degussa plant, Mr. Bidigare had set up and operated at Commercial a Tufftride installation. Afterwards, in 1960, the split between Commercial and Kolene took place. Miel and Commercial, however, continued to use the aerated process. They assert that they are using a different process, which brings us to the matter of infringement.

As to the desired avoidance of the patent-in-suit, Messrs Miel and Bidigare made certain changes in the process and equipment used therewith. Since the patent claims specified that the process employed "between about 25 and 40% cyanate" they decided to use 50%. This introduced no functional change in the process, but was de-

[6] This was based on earlier patent applications U.S. Serial No. 17,541 filed March 25, 1960 and U.S. Serial No. 40,555 filed July 5, 1960.

scribed by Mr. Grafmiller, a graduate metallurgist, formerly with Commercial, later one of the organizers and President of Motor City, in these terms:

> "Q: Do you know of any difference whatever in the functioning of a bath that has a cyanate content of 50 or more as contrasted with a bath which has a cyanate content of 25 to 40?
>
> A: Again, I have not been in this long enough to say yes or no to that. But to my knowledge it doesn't make any difference.
>
> Q: It is simply a question of avoiding the patent?
>
> A: Right."

Mr. Miel was somewhat more guarded. Avoidance of the patent was only part of the reason for going to a 50% cyanate level. The only other changes made were equally non-functional, namely, the use of an L-shaped tube (in-

(Tr-39a)

stead of a ring) to introduce the air into the bath, and (about the same time) using a titanium liner for the bath. (Stainless steel has also been employed for liners.) But it is noteworthy that the process of aeration, which was the key distinguishing feature between the old commercially unsuccessful German process, and the present successful one under the Muller-Albrecht patent, was not disturbed.

The claims-in-suit for the process were in part,

> "A process comprising immersing a metal workpiece in a molten alkali metal salt bath comprising between *about 25 to 40% cyanate*, at least about 40% cyanide * * * " Col. 8, lines 48-50, Patent-in-suit.

Our underlined words indicate the core of the controversy. The defendant claims that it uses between 48 to

50% cyanate and thus does not infringe. The first question that arises concerns the reasons for defendant's increase in cyanate. It sometimes happens in chemical processes that at a certain point in the reaction, a marked or significant change takes place. The reactions may stabilize on a certain plateau, that is, at a certain level. Or, having theretofore maintained a certain level, they may with changed conditions or concentrations, show a rise, or possibly a decrease, in intensity. Nothing of the sort occurs here. The "about 40%" is not critical from an operating point of view. Nothing happens at this point. It is clear from the testimony that this "about" 40% figure had its origin in the fact that the salts were eating up (reacting with) the then-available iron pots, producing a sludge. Its removal was difficult and laborious, since it was a shovel operation with highly poisonous chemicals, (the lethal ef-
(Tr 40a)
fect of the cyanides is well known) heated up to over a thousand degrees Fahrenheit. The "about 40%" was not a critical limitation of the inventive concept. At about 40% the effects upon the pot were so marked as to be incompatible with an economical and efficient commercial operation. As a matter of law, the term "about" is a clear warning that exactitude is not claimed but rather a contemplated variation. Thus the words "between about 25 to 40%" of claim 1 described limits ranging from a chemically operative lower limit (the 25% figure, as shown from the charts and testimony, is approximately where the effects of the bath begin consistently to increase) to a commercially imposed (for economic reasons) upper limit. It was the then best known method for operating the process.

While we are on this topic of operating the process, it

would be well to keep in mind that what we are concerned with here is a process invention. It includes certain acts or steps in combination, simultaneously acting on the salt bath and the metal pieces therein, namely, immersing the workpiece in the described liquid solution, and next, aerating the whole mixture, workpieces and all, by bubbling air upwardly through the mixture from below. The specific details of the appartus are of little or no significance or relevance. The pot is not the claim, but merely the vessel in which it all takes place. Nor is the pipe introducing the air the claim, whether a ring with holes in it, or an L-shaped pipe or what not. What we are concerned with here is a patent claim for a process as a whole and so we consider it. See, *Minnesota Mining* v. *Kent Industries*, 409 F.2d 99 (CA 6 1969).

(Tr-41a)

Except for the asserted difference in the cyanate content to 48-50%, the process used by Motor City is substantially the same as that taught by Degussa to Mr. Bidigare. Both Mr. Bidigare and Mr. Grafmiller testified that (in comparing the process when operated at 40% cyanate with that employing 50% cyanate) the purpose of the process was the same, the operations were the same, the results the same, and, more revealing, Motor City's customers were advised that the results of the Tufftride process and defendant's accused process were essentially the same. "Equivalent to or superior to" were Mr. Bidigare's words to Chevrolet and to the trade in general. In fact, orders from General Motors, Chevrolet Division, and from Fire-

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[7] E.g., Purchase Order, 2-22-65, Firestone to Motor City Metal Treating Corporation, "Services to *Tufftride* Chevrolet Flexplate Part #RA 26821-2" [Emphasis the Court's]

stone Steel, Division of Firestone Tire and Rubber,' to Motor City, specifying Tufftriding were received in evidence as bearing on the point that customers treated the accused process as the full equivalent of the Tufftride process and that Motor City was "riding along" (counsel's expression) on the trademark "Tufftride." So far as equivalence is concerned, the defendant is hardly in a position to deny it since it is clear that they have traded on the Tufftride name and reputation in soliciting business for its accused process.

The defendant's position respecting non-infringement rests upon the literal difference, if any, between the 48 to 50% cyanate allegedly used by the defendant and the words of the claims-in-suit "between about 25 to 40% cyanate." Shortly stated defendant says that a "between about 25

(Tr-42a)

to 40%" cyanate does not "literally read" upon 40 to 50% cyanate and therefore there is no infringement. But the difference is colorable, merely. There is no substantial or material difference. There is in fact literal readability, if proper weight is given to the qualifying word "about." Moreover the accused process is the full equivalent of the process defined in Claim 1 under the doctrine of equivalents, *Graver* v. *Linde*, 339 U. S. 605 (1950).

But defendant asserts that plaintiffs are estopped by a so-called File Wrapper Estoppel from construing the words "between about 25 to 40%" cyanate to include defendant's 48 to 50% cyanate. We will consider the entire File Wrapper disclosures and reliances at this point as they bear upon the several aspects of the case.

The original claims 1 and 2 in Patent Application U. S. Serial No. 17,541, filed March 25, 1960, described only the

concept of bubbling air through the mix, that is, aeration and nothing more. "According to the invention it was unexpectedly found that the nitriding action of such baths could be materially improved by passing finely divided air or other similar oxidizing gases therethrough * * * ."[8]

These clams were rejected on the grounds (see pp. 18 and 19 of the bundle) that the specifications did not indicate how the formula for the amount of oxidizing gas was derived, and that nitriding by nitrogen was the equivalent of what applicant was accomplishing by oxidizing, and that a British patent showed the "bubbling of the nitrogen containing gas" into a salt bath for nitriding. But it is (Tr-43a)

significant, at this point, to note that the Examiner did not reject on the basis that the prior art showed a process over which applicant distinguished solely on the matter of the maximum level of cyanate, which is the bone of contention at this point. Had he done so, a substantial question might arise, but such was not the case.

The insertion of the phrase "between about 25% and 40%" which later came into the case was hence not dictated in attempting to distinguish over any earlier aerated cyanide-cyanate process but was inserted because substituted attorneys[9] felt that it was improper under United States patent practice not to clearly define an operative process, stating an operative range, rather than merely describing the naked concept of adding aeration to some (or any) cyanide-cyanate baths. As we have seen, there was an approximate lower limit, for chemical reasons, of 25% cyan-

[8] Page 2, Application 17,541

[9] There is some argument whether the original attorneys were German attorneys or American but we do not find it particularly helpful to resolve the issue.

ate, and an approximate upper limit, for commercial reasons, of 40% cyanate. Thus, there was no giving up of any operative claim and the substitution therefor of another. No prior art required the cancellation of such claims, since no prior art cited by the Examiner (or, in fact, by the defendant here) included aeration in combination with cyanide and high cyanate. The Court, therefore, concludes and finds that the cancellation of the original, non-operative, no-range claims, when viewed in context, was not caused by a need to avoid any area of prior art which plaintiff (Tr-44a)

here seeks to recapture, but rather was a surrender only of inoperative naked claims, monopolizing every level of cyanate content, from the excessively low to the excessively high. Plaintiff is not here asking the Court to add an unclaimed element, which was once claimed and then abandoned in order to save the claim from invalidity due to the prior art,[10] or to drop from the claim some limitation originally added to distinguish the claim from the prior art cited by the Patent Office. There is, we find, no surrender or estoppel barring plaintiff from asserting infringement against cyanate percentages over 40%. This "surrender" point is the first of defendant's two theories of file-wrapper estoppel.

But defendant also argues that plaintiff's file wrapper statements, which allegedly argue that 25-40% is a critical level of the cyanate content of the process bar plaintiff from bringing infringement against the same process when operated over 40% cyanate. The defendant urges to us that while plaintiffs knew that the cyanate content was not critical to the operation of the process, they repeatedly

[10] See, *Kaiser* v. *McLouth*, 400 F2d 36 (CA 6 1968)

took the position before the Examiner that the cyanate range was critical.

This is an area calling for the greatest care in the interpretation of single sentences isolated from not only what preceded and followed the text, but from the case as a whole. We have seen heretofore that approximate ranges of operation with cyanate were imposed by a) the chemistry of the process (this is at about 25% cyanate) and b) the commercialization of the process (this was about 40%, due to the then-existing sludge problem.) To (Tr-45a)
this extent there is a critical range, "between about 25-40%." But (and we are looking particularly at the higher level, because this is where defendant operates) there is nothing whatever in the file wrapper, or the evidence before us to support a conclusion that the upper limit was critical to one exact percentage. "About 40" was good enough. This reflected merely the then operating experience. Whether 48, where defendant allegedly operates (48-50), was equivalent to 40 is nowhere negated by the file wrapper. Actually, that question is determined by the functioning of the process with the available impedimenta. Speaking of functioning, it is significant that defendant has failed to show that the functioning of the process at 48 is any different from that at 40, and we have heretofore commented that no performance or reaction curve presented to us shows any significant break at 40. We will not prolong this opinion with excerpts and testimonial references to the file wrapper[11] but we are satisfied that the plaintiff did not critically limit itself to a maximum of 40% during Patent Office proceedings.

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[11] This is Exhibit O. See, also, patent-in-suit, Ex. 1, col. 2, lines 39-40.

It is our conclusion as to infringement that the accused process is identical in all material respects to the process defined in Claim 1, the slight increase in the cyanate employed by defendant being immaterial. The accused process performs an identical function, and is identical in purpose and operation. Its results, as well, are substantially identical. Moreover, so far as equivalence may be involved, we find specifically that the accused process is the full (Tr-46a)

equivalent of the process defined in Claim 2 in all material respects, and is an infringement thereof.

We turn next to the defense of obviousness, novelty having been admitted. In this area our first inquiry must be as to the scope and content of the prior art. The best and most obvious prior art, of course, was the German nonaerated cyanide—high cyanate process we have heretofore discussed, along with the Volkswagen and other experience. Despite its initial high promise, it was unsuccessful. This earlier process was clearly presented to and considered by the Patent Office Examiner. Thus we find on the very first page of the patent application file wrapper that "The nitriding of steel workpiece by treatment in a fused salt bath containing alkali metal cyanide and alkali metal cyanate at temperatures between 500-600° C already is well known." Other comparisons are found between the earlier nonaerated process and the aerated process-in-suit, with the result of the Examiner's finding that the aerated process was patentable. Other prior art (note the Webster Dictionary definition found in footnote 2 hereto) were the old gas and liquid nitriding processes. None employed the gist of this invention, aeration. They were usable on only certain types of ferrous materials, not

all, they had pronounced disadvantages, and none provided a ductile (yet hard surfaced) workpiece. The process-in-suit considered contrary to the established knowledge of those skilled in the art, as to purposes, function, operations and results of the prior known nitriding processes. The essential difference was the addition of aeration. The results, at first received with skepticism, even by those skilled in the art, were as we have pointed out heretofore, subse- (Tr-47a)
quently referred to as "unheard of in the metallurgical field,"[12] and as "probably the biggest breakthrough in the heat treating field for several generations."[13]

Our ultimate question on this phase of the case is whether the addition of aeration (which is the essential difference between the claimed process and the prior art) was obvious to those skilled in the art. Persuasive in this regard is the established fact that the experts differ on just what sub-surface aeration does and why. It just happens, that's all. No prior art suggested adding aeration for uniformity of results and qualitative improvement over the earlier non-aerated bath. Such an unexplainable happening can hardly be said to be obvious to anyone.

Defendant argues that the principal result of aeration is merely to add cyanate (by oxidizing cyanide), thus replenishing used cyanate. But there is no proof of this, and it is significant to us that defendant, while maintaining its high level of cyanate by adding bricks of pure cyanate, nevertheless continues to employ aeration. The reason is clear. It is because without aeration the process is commercially useless. We find, on the record before us, that

[12] Metallurgist Soviak, Commercial Steel Treating Corporation. Tr. 626

[13] Metallurgist Mars, Vickers Corporation. Tr. 645

aeration does more than merely to add cyanate, but just exactly what it does we have not been told and cannot say. Our conclusion, based upon the criteria set forth in *Graham* v. *John-Deere*, 383 U. S. 1 (1966) is that the defendant has not maintained its burden of proof as to (Tr-48a)

obviousness. The Court, rather, finds that the process defined by Claim 1 was not obvious to those skilled in the art at the time the invention was made.

Defendant also contends that a fraud was practiced on the Patent Office. Defendant offered no proofs on this serious charge save introducing the File Wrapper into evidence. In the *Pfizer* case[14], upon which defendant heavily relies, the Patent Office Examiner was called and testified that he was in truth misled by the concealment of evidence which he had requested and which evidence was available and known to the patentee. Of course, this is not the only way, as defendant properly argues, of proving such fraud but in a case of this magnitude on an issue so important, involving, as it does, the penalties involved in anti-trust violations, we would desire something more decisive than the dry contents of the Wrapper. However, we will work with what we have.

Briefly, the patent application followed a not unusual path in the Patent Office.[15] There was an initial rejection of claims based upon a British patent[16] and an earlier Muller Patent.[17] Applicant's response contrasted the claimed process with both of these references. The material and significant ones of the rejected claims were replaced by

[14] *Chas. Pfizer* v. *Federal Trade Commission*, 401 F2d 574 (CA 6, 1968)
[15] See Ex. O, Patent Application
[16] No. 591,793, August 28, 1947
[17] No. 2,927,875, March 8, 1960

(Tr-49a)

Claim 12, renumbered as Claim 1-in-suit. Such claim was directed to a process employing (a) cyanide (b) high cyanate and (c) aeration, together with other specifications. This claim (with others) was ultimately accepted by the Patent Office and the patent-in-suit issued.

The gist of the fraud charge is the allegation, repeated with many variations, that the Examiner "did not have before him the best prior art, 'soft nitriding'." We find, on the contrary, and beyond reasonable contradiction, that the Examiner was fully informed thereof, that the applicants acknowledged the old unsuccessful German process as part of the prior art, but urged that its aeration in a cyanide-high cyanate bath was the distinctive and novel element of the process claimed. Thus on pages 1 and 2 of the Patent Application, No. 17,541, Ex. O, after referring to the older, well-known nitriding by treatment in a fused salt bath, it was stated that "It was found, however, that the nitriding action of such baths is not always uniform and that quite often defective results were obtained," and, continuing:

> "According to the invention it was unexpectedly found that the *nitriding action of* such baths could be materially improved by *passing finely divided air* or other similar oxidizing gases therethrough and that when this measure is taken the nitriding action of the baths is no longer dependent upon the depth of the baths.
>
> "The beneficial effect achieved by introduction of finely divided air into the fused salt bath is, for example, exemplified in that a fused salt bath 60 cm in diameter * * * " [p. 2, Italics the Court's]

Later (p. 80) it is also pointed out that
(Tr-50a)

> "The *aeration of the fused salt bath* during the nitriding operation to a certain extent controls the nitriding action obtained. In general for reasons of economy the nitriding action is increased to its highest possible value." [p. 8, Italics the Court's]
>
> * * *
>
> "The air or oxidizing gas is introduced into the bottom of the fused salt bath in such a way that it is finely distributed in the form of small bubbles which rise up through the molten bath." [p. 8]

We note also (pp. 13-16, Application) that the process claims as filed specified aeration as an essential element.

The curves in the File Wrapper (p. 28) labelled as "unaerated" and "aerated," graphically demonstrate the differences between the old unsuccessful process and the new one. "The differences between treatments of the same metal under the same conditions and in the same bath is even more pronounced when the bath has been *aerated* during the treatment of the metal as compared to the *same bath in which no air was added.*" (p. 27) [Emphasis the Court's]

The record is replete with further instances of notifications, together with comparisons. We find that, starting with the first page of the application, and continuing throughout, there were ample references to alert the Examiner to the old process. The law in this area seems
(Tr-51a)
clear. Where an applicant deliberately and intentionally, rather than unintentionally or mistaknely, suppresses material evidence or gives the Examiner false and mislead-

ing evidence, which betray him into granting a patent that he might not otherwise have granted, the patent is not only unenforceable, but the fraud so practiced might ground an anti-trust claim, should the other elements of an anti-trust violation be proven. *Walker* v. *F. M. C.*, 382 U. S. 172 (1965).

Further chares of fraud are levelled with respect to technical papers and brochures, test samples and test reports describing the results obtained by the use of the old German non-aerated process, and an affidavit by Mr. Shoemaker, President of Kolene, all of which are found in the file wrapper. It is said that these were fraudulent misrepresentations to the Patent Office since those representations involved in the charge related to the old German process. It is true that much of the soft nitriding data obtained from the older, one-step process was used but it was equally applicable to the new aerated process-in-claim. As we have pointed out heretofore, the old process did indeed have marked advantages, combined with its disastrous disadvantages, and it was the claim of the applicants that the new bubbling process largely eliminated the disadvantages. The use of the old process data was completely proper (indeed, we would say, essential) provided only, and here is when the charges of fraud collapse, provided the Examiner was informed of the relation of the old process to the new. This he was, as we have shown.

The burden of proof of fraud upon the Patent Office, whether relating to the defense of fraud or to the anti-trust counterclaim based on fraud is upon the defendant (Tr-52a)

and it has not been sustained. There is no showing that any statements to the Examiner by applicants were materi-

ally untrue or misleading, or that any representations had a tendency to (or did, in fact) mislead the Examiner into granting a patent which he would otherwise not have granted. Moreover, and most importantly, there is no showing of an intent deliberately to mislead the Examiner or that he was in fact misled. We find that defendant has failed to maintain its burden of proof as to the fraud alleged to have been practiced upon the Patent Office, whether treated as a defense or as defendant's anti-trust counter-claim.

We come now to the matter of the alleged "misuse" of the patent. Defendant argues that should we decide as to infringement or other issues in plaintiff's favor, nevertheless plaintiff cannot maintain any enforcement action against defendant because plaintiff has "misused" the patent.

The argument by defendants that Kolene has misused the patent comes to us with very skimpy proofs. We know very little about Kolene's quantitative use of the patents in the industry, this arising from defendant's disclaimer of any anti-trust violation, though it relies heavily upon anti-trust cases by way of analogy, should analogy there be. Much of defendant's "misuse" case rests squarely upon argument and speculation. Very few hard facts are presented. Analogies from the anti-trust field, as we have noted, are heavily relied upon, but it must be kept in mind that this is not an anti-trust case. If it were, it would fail, even under the *per se* doctrine, for there is no showing that a "not insubstantial amount of commerce" is affected. (Tr-53a)

Northern Pac. R. Co. v. *U.S.*, 356 U.S. 1 (1957). As to analogies it is well also to keep in mind that we are cited

to both patent and trademark cases, involving both the anti-trust laws and the *Morton Salt* doctrine of misuse. The permutations and combinations possible with two sets of rights involving two types of remedies, in various postures of association, without any discernible unifying thread of legal or economic principle, warns us to consider and to use the analogies with some caution. These observations are peculiarily relevant to the trademark (or patent) issue involving the franchised heat treaters, *infra*.

As will be later set forth in detail, Kolene does business with two types of shop, "captive" shops and heat-treater franchisees. With respect to each, defendant argues that there has been a "misuse" of the patent itself, relying, among other cases, on the *Morton Salt*[18] case. This case held that the holder of a patent on a salt depositing machine, who had licensed the patent for use only with salt purchased from him, could not maintain suit against the manufacturer of an infringing machine. "* * * [C]ourts, and especially courts of equity," it was held, "may appropriately withhold their aid where the patentee is using the right asserted contrary to the public interest." This proscription of denial of remedy is not, then, automatic. We are remitted to a consideration of "the public interest."

To view this matter in its proper setting upon the facts (Tr-54a)
before us it is necessary to review in somewhat more detail not only the relationship between the parties, but Kolene's method of doing business in this respect.

As we have previously noted, in the summer of 1959, with the permission of Lucas Miel, then President of Com-

[18] *Morton Salt* v. *Suppiger Co.*, 314 U.S. 488 (1941)

mercial, Mr. Bidigare went to Germany with Mr. Shoemaker as a technical adviser, to learn the process-in-suit from Degussa. It was taught to them in confidence upon assurance that it would not be used as against Degussa. It is clear that Mr. Bidigare had never, prior to that time, heard of the process. Upon returning to this country Mr. Bidigare set up and operated a Tufftride installation at Commercial, in a joint venture with Kolene, in which Kolene provided the salt free of charge to Commercial. During this period Mr. Bidigare and Mr. Shoemaker attempted to exploit the process and advertising literature was prepared. Thereafter, in 1960, Commercial and Kolene split up. The reason is not shown in the record. We gather that animosities existed between the parties.

Miel and Commercial, after the split up, continued to practice and promote the process but changed the trademark from "Tufftride" to "Nu-Nitride."

In 1962, when the patent-in-suit issued, Miel and Bidigare sought legal advise on how to avoid the patent, making, pursuant to such advice, what we have decided heretofore are slight changes in the salt concentrations and in the equipment. It is clear, however, that they did not give up aeration, which was the gist of the patent-in-suit.

Litigation between Commercial and Kolene regarding contractual agreements, breaches of confidence, patent in-
(Tr-55a)
fringement, and other issues thereafter took place, all of which issues were settled in 1963 after Miel, Bidigare and Grafmiller left Commercial. Thereafter, Commercial became a Tufftride franchisee. In the same year, 1963, Messrs Miel, Bidigare, Grafmiller, and other former Commercial employees formed the defendant, Motor City. At all times

Motor City has operated the accused process, with the exception of equipment (pot or liner) changes, substantially as it had at Commercial but under the name "Cynatride." To complete the picture we will merely note that there are certain off-shoots to the Commercial operation. Miel and Bidigare taught the process to Industrial Heat Treat of Charlotte, North Carolina, and licensed Industrial to practice the process under Commercial's trademark "Nu-Nitride." Industrial made duplicate copies of Kolene's advertising materials for Tufftride, changing only the word "Tuffride" to "Nu-Nitride." All of this was done without Kolene's permission or license but with Commercial's active assistance. During this same period, the Nu-Nitride process was licensed to a Canadian company controlled by Miel, the Preston Heat Treat Company, which shortened the trademark to "Nutride." It is noteworthy that Kolene has not sought injunctive or other relief against these processors so far as this record discloses.

We do not more fully explore the Commercial litigation since we were informed at the trial, by defendant's (Tr-56a)
counsel, that such litigation be viewed as lacking relevance to the issues under litigation.[19]
(Tr-57a

In addition to the Commercial litigation during the time

[19] *Tr. pp. 180-183:*

"MR. CULLEN: Excuse me. May I say something to the Court? The Court should understand to keep this testimony in proper perspective, that at the beginning the Kolene people and Mr. Miel and Bidigare of Commercial Steel Treating were working together in a joint effort. Subsequently, there was a falling out between Mr. Shoemaker, on the one hand, representing Kolene, and Mr. Miel, on the other hand, representing Commercial.

"As a result of that falling out, and subsequent to that falling out, Commercial Steel Treating Company, which was

then under the control of Mr. Miel, went its own way and practiced the process that they were practicing, and they now adopted the trademark "Nu-nitride," and they were continuing their operations without regard to any claim of right of Kolene.

"There was litigation between the Kolene people and between Commercial Steel Treating during the time that Mr. Miel controlled the operations of Commercial. Subsequently, the principal stockholders of Commercial Steel Treating Company had a falling out with Mr. Miel, and Mr. Miel left Commercial Steel Treating Company to form Motor City Company.

"Meanwhile, the stockholders of Commercial Steel Treating Company then returned back into operation with Kolene and became a licensee, and exclusive licensee for the Detroit area, except for Kolene's own operations under the Franchise system.

"Now, Mr. Miel and Bidigare, having left Commercial Steel Treating Company, formed Motor City Company, the present defendant, and continued in Motor City Company the same operations that they had previously performed in when they were in the employ of Commercial Steel Treating Company, and in the operations of Motor City Company, the same people, by the way, now call their process "Cyanatride."

"This explains the peculiar thing, that Commercial Steel Treating Company was at one time controlled or operated by Mr. Miel and later was not, and also the peculiar fact that at one time Commercial Steel Treating Company was in a joint venture with Kolene and then later had a falling out with Kolene, and then still later returned to use the Kolene trademark and the Kolene services and literature and publicity and sales effort as a franchisee of Kolene.

"THE COURT: That is the corporation itself and not the individual?

"MR. CULLEN: That's right.

"THE COURT: All right.

"MR. CANTOR: Perhaps I might shorten the questioning of the witness, since this witness was obviously intimately acquainted with those facts.

"Q (By Mr. Cantor) Is Mr. Cullen's statement correct, Mr. Shoemaker?

"A Correct, yes.

"Q Would you be willing to adopt that as your testimony as an answer to a question?

"A Yes.

"MR. CANTOR: Is there any objection to that?

"MR. ADELMAN: No. I only want to say I was hoping we could avoid getting into the issues *of that prior litigation, which I view as having no bearing on this lawsuit whatsoever.*" [Italics the Court's]

that Mr. Miel controlled Commercial, there was litigation between Kolene and Mr. John Sheppard, a retired metallurgist and chemicals salesman. Mr. Sheppard had furnished salts for the accused process to Commercial during the time it was operated by Mr. Miel, and thereafter furnished them to Motor City. Apparently as a part of the litigation with Commercial (prior to the departure in 1963 by Mr. Miel) or at about the same time, Kolene sued Sheppard for patent infringement, and later, convinced that he was not so infringing, dropped the suit. The defendant refers to Mr. Sheppard as a "manufacturer of salts." The description is hardly apt. Mr. Sheppard's ac-

(Tr-58a)

tivities with respect to the defendant's operation were described in some detail by Mr. Grafmiller, formerly of Commercial, later one of the organizers of defendant Motor City, its president, and general manager. He testified that the salts used by Motor City were "made there on our property," and that an employee of Motor City assisted Mr. Sheppard in his work, "after hours." Mr. Sheppard used Motor City's equipment and their space, on which he paid no rent. The record is utterly devoid of any testimony as to what would normally be called a bona fide manufacturer's plant operations, volume of business, equipment, number of employees, or otherwise. Actually, it would seem that what Mr. Sheppard did, first at the premises of Commercial and then Motor City, was to cast cyanate bricks for use in the process by Grafmiller. Mr. Sheppard's operations respecting the salts hardly rise to the dignity of being a "manufacturer thereof" as the term is normally used. We have gone into these suits in some detail, despite counsel's disclaimer, since they form

the basis of the charge, essential to the application of the misuse doctrine to the captive shops, that Kolene was "vigorously enforcing" it patent.

The argument by defendant that Kolene has misused its patent on the process requires a considerably detailed exposition of Kolene's methods of doing business with respect to the process-in-suit. Its business is that of selling salts and equipment used in chemical processes. With respect to the process-in-suit, Kolene sells equipment and salt to two classes of customers: a) the so-called "captive" shops, accounting for about 98% of the market, which are merely the heat-treating departments of corporations which process their own industrial parts; b) the so-called "heat

(Tr-59a)

treaters," independent operators, accounting for about 2% of the market, operating under franchises. This is a service type of business. These heat treaters process parts sent to them for treatment by their various customers.

With respect to the captive shops and the heat treaters using the process-in-suit, there is a different sales policy as to each, arising out of the differences in their methods of operation. The captive shops do their own work in their own shops and the responsibility for improperly treated parts is solely their own. Kolene sells equipment and salts to them upon purchase order. With them it has no agreements, contracts, or licenses. They are free to make purchases of their materials and equipment whereever they see fit, although as a practical matter they buy their salts and most of their equipment for the process from Kolene. These captive shops are also brought and kept abreast of technical improvements in the art through Kolene's technical help of various kinds.

The situation with respect to the "heat-treater" franchisees is substantially different. There are eleven heat treater licensees located in various parts of the United States, one of them Lindberg) having multi-plant operations in widely scattered places. Each of these franchisees is required to operate in accordance with Kolene's controls and procedures, and to buy all salts used in their "Tufftride" baths from Kolene. Each franchisee sells its Tufftride services under the trademark "Tufftride," relying (as do its customers) upon that trademark and its good will and reputation to sell to its industrial customers.

With respect to these franchisees, an outside company (Tr-60a)

sends its parts to a heat-treater to be "Tufftrided." Uniformity or consistency of treatment is an important factor. There may be substantial lapses of time between successive orders. There are widespread geographical separations between locations of either the same heat-treater, in its various branches, or between different heat-treaters. An example given the Court[20] was that of a customer who "has a plant in Peoria, * * * and a plant in York, Pennsylvania and a plant in San Dreando (sic), California, and he desires Tufftriding work done, that he could send to a licensee in California or into Pennsylvania or in Illinois and secure the same quality, the same product, the same process as he would get from any of the other licensees." International Harvester,[21] for example, sends the same crankshafts both to Commercial in Detroit and Lindberg in Melrose Park, Illinois. Moreover, not only the heat-treaters but their customers turn to Kolene for aid

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[20] Shoemaker, Tr. 316

[21] Ex. 5, Hall dep., pp 26-27

in the solution of problems which have arisen in the heat-treater shops. In addition, such shops must conform to an expected standard of work, as contrasted with the captive shop which, for its own work, may set its own standards, accepting or rejecting as it wishes. The franchisees pay a royalty to Kolene based upon their Tufftride business volumes. In addition, they are required to buy salts used in the trademarked "Tufftride" process, but not their equipment, from Kolene. Kolene argues that the salts must be of the same proven formulation, quality, and purity, the salts forming a major integral part of the (Tr-61a)

process. It is argued, as well, that merely setting specifications for salts obtainable from different sources will not achieve the coast-to-coast uniformity of treatment necessary for the product.

With respect to the captive shops, it is Kolene's position that their sales policy was to sell on the basis of being a good supplier, that it does not use patents as a sales weapon, that the business is the sale of salts and that it would not, nor has it ever, refused to sell salts to anyone. Defendant counters with the argument that the plantiff has used its patent "to coerce captive shops to purchase unpatented salts from the plaintiffs," relying upon such cases as *Leitch Mfg. Co.* v. *Barber Co.*, 302 U.S. 458 (1938); *B. B. Chemical Co.* v. *Ellis*, 314 U.S. 495 (1942); *Lincoln Electric Co.* v. *Linde Air Products Co.*, 179 F2d 223 (CA 6, 1949) and, of course, *Morton Salt Co.* v. *Suppiger Co.*, 314 U.S. 448 (1941). These are but a few of a host of cases all involving the same principles, all of which are based expressly or impliedly upon the element of coercion. See, *Rocform Corp. v. Acitelli-tandard Concrete Wall, Inc.*,

367 F2d 678 (CA 6, 1966). A fair summarization of these cases would seem to be that the courts require for application of the doctrine, a showing that while the patentee was permitting the use of the patent to his own customers, he was, as a practical and substantial concomitant, denying the use of it to others, by suit, threat, or otherwise. It is noted, for example, in our earlier Sixth Circuit case *(Lincoln Electric, supra)* that the patentee was vigorously enforcing its patent rights under the patent claims against sellers of the unpatented elements.

It is just at this point that defendant fails in his evi- (Tr-62a)
dentiary shewings. Although it asserts "vigorous enforcement" by Kolene, it turns out that the vigorous enforcement referred to are the old suits at the time of the breakup of Commercial and Kolene and nothing more, either against Nu-nitride, or other off-shoots of the Commercial operation. It urges vigorously that with respect to the captive shops (which do not employ the trademark Tufftride), the practice of Kolene is to force the use of the salts by lawsuits. "You have to have it [an implied patent license] or you go out of business because they sue everybody."[22] What defendant is asserting here is actually coercion. It is reminiscent of the statement of the Court in *Switzer Brothers, Inc.* v. *Locklin*, 297 F2d 39 (CA 7, 1961) that the patentee had threatened "all non-licensed manufacturers and all users of non-licensed devices with patent infringement suits" and had commenced suits "in widely scattered parts of the United tates against dealers, manufacturers, users, and customers," and the argument made in *Lincoln Electric, supra.* But defendant's argument in the case

[22] Tr. May 28, 1969, p. 16

before us founders on the record. There are before us no such suits. There is no evidence of threats of infringement, and no evidence of any kind that the captive shops or any franchisee have been pressured in any way by the existence of the patent-in-suit or its employment. The same situation obtains with respect to the words "Patent Pending" appearing on some drums shipped into the United States by Degussa. Defendant argues that the purpose of such words "is unlawful coercion." Mr. Shoemaker testified that the appearance of such words was either an over-
(Tr-63a)
sight or a mistake of fact by plaintiff relating to the pendency of relevant patent applications. At any rate no evidence was presented that anyone other than defendant's counsel was either aware of or interested in or disturbed by this language and we regard it as inconsequential.

In short, on this issue of coercion raised by the defendant, all that we have is counsel's charge and speculation, unsupported by evidentiary showings. Far more than this is required for the application of the Morton Salt doctrine, harsh as it is and involving forfeiture as it does, since its meaning is that a patentee cannot enforce his rights against deliberate infringement. No threats have been shown to us and no disgruntled user, or would-be user, has appeared before us. It is inconceivable to us that an entire industry could have been so intimidated. Upon the record we cannot find that the patent-in-issue has, in this suit, or any other, been held as a club over the salt users to bring them into line. It is our judgment, having heard and seen the witnesses presented, as well as other evidence, that the charge is without foundation.

The trademark tie-in, involving about 2% of the industry,

remains for consideration. The obectives of trademark protection were summarized in a Senate Report[23] on the Lanham Act[24] as follows:

a) "* * * [T]o protect the public so it may be confident that, in purchasing a product bearing a particular trademark which it favorably knows it will get the product which it asks for and wants to get.

b) "* * * [W]here the owner of a trademark has spent energy, time, and money in presenting to the (Tr-64a)
public the product he is protected in his investment from its misappropriation by pirates and cheats." [Paragraphing used is the court's]

It must be recognized that we have two opposing considerations at this point, each of which has powerful support. On the one hand we have the anti-competitive effects inherent in any tying arrangement. On the other hand we have a trademark licensor's efforts to preserve the good name and integrity of his product. As Mr. Justice Holmes observed in *Bourjois & Co.* v. *Katzel*, 260 U.S. 689, 692 (1923) a trademark "deals with a delicate matter that may be of great value but that easily is destroyed, and therefore should be protected with corresponding care," going on to say "[I]t stakes the reputation of the plaintiff upon the character of the goods." There are few cases in the field, none on all fours, and the literature is sparse and inconclusive.[25]

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[23] S. Rep. No. 1333, 79th Cong., 2d Sess. 1, 3 (1946)

[24] 60 State. 427 (1946), 15 U.S.C. §§1051-1127 (1958)

[25] See, Schniderman, Trade-Mark Licensing—A Saga of Fantasy and Fact, 14 Law and Contemp. Prob. 248, 259-268 (1949); Timberg, Trade-marks, Monopoly, and the Restraint of Competition, Id. 323.

The defendant relies heavily upon *Switzer Bros.* v. *Loch-lin,* 297 F2d 39 (CA 7, 1961). In this case the patentee sought the most extensive controls, since "The licenses required, as a condition for the grant thereof, that the licensee purchase all materials from Switzer, or sources approved in writing by it, *not only for the production of the patented devices, but also for the production of all daylight*

(Tr-65a)

fluorescent devices."[26] [Emphasis ours.] There is no such parallel here. Moreover, the case involved both patent and trademark tie-ins, the Court concluding that the appellants had misused both the patents involved and the trademark "in restraint of trade in interstate commerce in violation of the antitrust laws." There is no claim of an anti-trust violation made in our case. The case of *Susser* v. *Carvel Corp.*, 332 F2d 505 (CA 2, 1964) is more in point, although it also involved charges of violation of the anti-trust laws. There the Court divided, but both opinions held that a tying might be justified as necessary to protect a trademark. The majority held that a trademark tie-in, to be illegal, must meet the same tests applied in a patent tie-in situation, namely, both market dominance and the affecting of a substantial amount of commerce, the plaintiff failing there in establishing either element. The defendant here makes no effort at such a showing. Its argument is that the heat-treater franchises really involve a patent tie-in, not a trademark tie-in, and thus the franchises offend public policy, under the *Morton Salt* case, *supra.* Is the arrangement before us, then, a patent tie-in or is it a trademark tie-in? We pursue the same inquiry as did both the trial

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[26] 297 F2d 39, 44

and appellate courts in *Susser* v. *Carvel Corp., supra.*, in asking, What is the focus of the arrangement?

We turn to the franchise contracts themselves and examine that of the Getchell Steel Treating Company, Inc., a Minnesota corporation. The franchise, it states therein, concerns the "Tufftride" process. Granted are certain ex-
(Tr-666a)
clusive area rights, in which the licensee may "practice the Tufftride process and * * * use Tufftride apparatus and materials." Kolene agrees to furnish advertising materials, technical help and training, and to conduct inspections to assure "consistently high quality." The purpose of the latter provisions is to safeguard the quality on a nationwide basis for the benefit of customers relying on the Tufftride name, reputation, and trademark. The only reference to the patent (which had issued some three years previously) is in the first paragraph in which the "Metal Treater" agrees to honor all of Kolene's and Degussa's rights, "including all patents, issued or to be issued in the future ***."

Defendant does not demonstrate to us any focus on the patent itself by any direct evidence of record. Its argument rests on speculation and conjecture, as did its argument with respect to the "pressuring" of the captive shops, allegedly to force them either to buy Kolene salts or face suit "because they sue everybody." Defendant points to an amendment made in the licenses approximately a year after the patent grant, which amendment required the purchase of Kolene salts. As to this amendment, on the other hand, plaintiff submits exhibits (see Exs. W and Y) on the basis of which it argues that such requirement was imposed as a part of a review and recast of their method of doing business, including re-allocation of exclusive territorial rights (Ex. B to Ex. Y). Again, we are in the realm

of speculation. We cannot find the causal relation asserted by the defendant upon the evidence before us.

We construe this instrument not only within its four corners but with reference to the testimony of Mr. Shoemaker, who described in detail Kolene's method of doing (Tr-67a)
business. The focus here clearly is the trademark "Tufftride," the term coined by Mr. Shoemaker himself in an effort to avoid the disparagements which had been cast upon the words "soft nitriding," which had been employed at an early stage in the art. The trademark or service mark[27] Tufftride has become known on a nationwide basis and it is to the protection of such mark that the franchise agreement is principally devoted.

With respect to the widespread use of the trademark Tufftride and reliance thereon we have previously noted that the defendant itself receives (and processes) orders from Firestone and the Chevrolet Division of General Motors calling for the "Tufftride" process. Defendant informs its customers, we are told, that its process is not Tufftride but Cynatride "and its equivalent." Counsel continues "I admit that we're riding on the good will of the process insofar as it has good will, and we're entitled to do that in a competitive economy, absent a valid patent. That's what we're talking about here, is that patent valid?"

Moreover, it is significant to us, among other factors, that in the captive shops, which use the process-in-suit and comprise 98% of the market, but which is a non-trademark situation, there is no requirement that these large shops purchase their salts from Kolene. It is only with respect to the 2% remainder, scattered all over the country,

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[27] For the purposes of this case a distinction is unnecessary.

operating under the Tufftride trademark, a process requiring uniformity for industrial use, that the purchase of salt requirement is made. Since both segments of the mar-
(Tr-68a)
ket are using the patented process it is the more difficult to say that the control is based upon the patent rather than the trademark.

We find the focus of the franchises, then, to be upon the trademark Tufftride and, considering the need for nationwide dependability, reliability and uniformity of quality and purity of the salts used by those using the Tufftride trademark, the difficulties of supervision of operation nationwide as to salts from different sources, even though conforming to specifications and within commercial limits of purity, (available commercial grade cyanides have 2 - 4% unknown impurities) considering as well the lethal nature of these salts (i.e., cyanide) and the difficulties encountered in the efforts of Mr. Shoemaker to mix them, as well as the fact that this is a relatively new process, it is our judgment that under the unique circumstances of this case the salt purchase requirement by the heat-treater shops is not unreasonable.

The finding thus made is determinative of the case under defendant's theory. It concedes (Defendant's Supp. Brief, p. 2, submitted following oral argument on this phase of the case) that "if the focus of the franchise agreements were, in fact, the Tufftride mark, rather than the patent-in-suit, then defendant's charge of misuse would fail."

We will add that even without the concession, *Morton Salt* itself makes it clear that the doctrine there enunciated is not to be taken as dogmatic and its application automatic. Denial of remedy against an infringer is a harsh remedy, a species of forfeiture. And just as there is now found,

(Tr-69a)

in amelioration of the adamant application the per se rule[28] to tying contracts in anti-trust law, the doctrine of business justification,[29] so it would seem that the *Morton Salt* doctrine should admit of similar amelioration, even if this were indeed found to be a patent tie-in, in the light of *Morton's* requirement that the plaintiff must be using the right asserted "contrary to the public interest." In all of the welter of words and literally volumes of learned discussions in the area of anti-trust; per se violation, business justifications, and all the rest, we are impressed by the down-to-earth observations of the Fifth Circuit in the case of *Dennison Mattress Factory* v. *Spring Air Company*, 308 F2d 403, 408, in upholding a trademark agreement against assault under the anti-trust laws that

> "* * * the cases do point out that courts are prone to look at the primary purpose of a contract to determine its validity. If the primary purpose, however disguised, is to stifle competitors and create a monopoly, then the agreement or contract is struck down. However, the cases seem to follow the principle that if the primary purpose of the contract is lawful, e.g.,

(Tr-70a)

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[28] This term involves both a semantic and a procedural wilderness. Compare (as to "market dominance" alone) *Northern Pac. Ry.* v. *U.S.* 365 U.S. 1 (1958) with *Times-Picayune Publishing Co.* v. *U.S.*, 345 U.S. 594 (1953); compare also *United States* v. *Loew's, Inc.*, 371 U.S. 38 (1962) with *White Motor Co.* v. *U.S.*, 372 U.S. 253 (1963).

[29] See, Comment, 62 Mich. L.R. 1413, Tying Arrangements under the Anti-Trust Laws: The "Integrity of the Product" Defense; Note, 72 Yale L.J. 1171 (1963). See, also, *Baker* v. *Simmons Co.*, 307 F2d 458 (CA 1, 1962); *Dehydrating Process Co.* v. *A. O. Smith Corp.*, 292 F2d 653 (CA 1), *cert. den.* 368 U.S. 931 (1961); *U.S.* v. *Jerrold Electronics Corp.*, 187 F. Supp. 545 (E.D. Pa. 1960) aff'd per curiam 365 U.S. 567 (1961).

> to protect one in the fruits of his labor, and if the arrangement was actuated by or could be explained on the basis of legitimate business justification as opposed to the desire to increase market control through economic leverage, then the court will generally hold any incidental restraint of trade, not harmful to competition of the public, to be lawful. *Dehydrating Process Co.* v. *Smith* (CA 1, Cir. 1961) 292 F2d 653. Therefore, it is our duty to determine whether the general primary purpose of the contract under consideration was to protect Spring - Air in its product, and then determine more specifically whether the provisions of the contract complained of here violate any antitrust law."

Under the facts as we have found them and the law applicable thereto we need not consider plaintiff's offer to defendant, made in 1968 after suit was instituted, of a license giving defendant full freedom to practice the process without either controls or the salt-purchase requirement, conditioned, however, along with other requirements, that defendant take care to remove any belief or impression in the trade that it was franchised Tufftride heat treater Defendant urges this as an implied admission of guilt Plaintiff points to it as evidence of complete good faith. If we were compelled to make a choice we would, after seeing and hearing the witnesses, accept the good faith explanation. We find no misuse of the patent, either as to the captive or the franchised shops and we so hold.

It is our conclusion that Claim 1 of the patent-in-suit is valid and has been and is infringed by defendant and that plaintiffs are entitled to a judgment granting an injunction (Tr-71a)
against further infringement and an accounting awarding

damages as sought by the Complaint. A suitable order my be presented.

/s/ TALBOT SMITH
Talbot Smith
United States District Judge

Detroit, Michigan
July 28, 1969

IN THE

Supreme Court of the United States

OCTOBER TERM, 1971

No. 71-132

MOTOR CITY METAL TREATING, INC.,
Petitioner,

vs.

KOLENE CORPORATION and DEUTSCHE GOLD-UND-SILBER SCHEIDEANSTALT,
Respondents.

RESPONDENTS' BRIEF IN OPPOSITION TO PETITION FOR WRIT OF CERTIORARI

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IN THE

Supreme Court of the United States

OCTOBER TERM, 1971

No. 71-132

MOTOR CITY METAL TREATING, INC.,
Petitioner,

vs.

KOLENE CORPORATION and DEUTSCHE GOLD-UND-SILBER-SCHEIDEANSTALT,
Respondents.

RESPONDENTS' BRIEF IN OPPOSITION TO PETITION FOR WRIT OF CERTIORARI

This is a "Fact" case decided upon its unique "Facts", once by the District Court and twice by the Court of Appeals.[1] There are no novel or important disputed legal

[1] See District Court's lengthy opinion in Petition Appendix (P.A.) pp. 17a-61a; See 6th Circuit Court's original affirming opinion in Petition Appendix (P.A.) pp. 1a-5a, and second opinion denying Petition for Rehearing at P.A. 16a, all bound in with the Petition for Certiorari.

questions presented to this Court. Nor does this case involve any departures from accepted and usual patent law or judicial proceedings. In essence, the Petition asks this Court to retry the case on its facts. Hence, the Petition is wholly without merit. Respondents[2] ask that it be denied.

As is evident from reading the Opinions below, the Petitioner's Statement of Facts bears virtually no resemblance to the relevant facts adduced at Trial. In many instances, speculations and wishful thinking of counsel are submitted as evidence. In other instances, quotations are taken out of context, presenting half-truths. Likewise, the "Questions Presented" are misleading and again are based upon speculation, not the facts adduced at trial. Consequently, Respondents find it necessary here, as was the situation below, to restate the questions and relevant facts as follows:

RESPONDENT'S RE-STATEMENT OF QUESTIONS PRESENTED

1. The Claim is Literally Infringed, and "That is the End of it".

Did the Court of Appeals err in twice affirming the District Court's finding that Petitioner does not escape infringement of the patented aerated process merely by adding a non-functional excess amount of cyanate, admittedly for the *sole* purpose of enabling its attorneys to

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[2] Respondent Kolene Corporation is referred to herein as "Kolene"; Respondent Deutsche Gold-Und-Silber Scheideanstalt is referred to herein by its tradename "Degussa". At times, Petitioner herein is referred to as Motor City.

argue non-infringement in Court on the ground that there is a semantic difference between the "*about* 40%" of the patent claim and the about 46-50%[3] of the accused process, where the accused process includes the inventive step of aeration and is admittedly identical to the patented process in purpose, function, operation, procedure and results.

If this Court agrees with the District Court that the claim is "in fact" literally infringed "if proper weight be given to the qualifying word 'about' ",[4] and further agrees with the Court of Appeals that "the claim literally reads on the accused process"[5] and if this Court follows its own prior conclusion that literal infringement "is the end of it",[6] then the issue of file wrapper estoppel presented in the second question below is moot. Only if this Court disagrees with both Lower Courts' finding of literal infringement need this Court consider the second question, as follows:

2. There is no File Wraper Estoppel Here to Preclude a Finding of Infringement

Did the Court of Appeals err in twice affirming the District Court's Finding that since the invention was at all times claimed to be the addition of aeration to a known process, and not in any specific percentage of cyanate

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[3] While Defendant stated that it operates at about 48-50%, and Defendant's counsel argues that Defendant "has frequently been operated at levels about 50% cyanate", the proofs show about 46% and about 47%.

[4] P.A. 33a, lines 19-20.

[5] P.A. 8a, line 23.

[6] *Graver Tank v. Linde Air Products*, 339 US 605, 607.

used, and since the accused process includes the inventive aeration step and is admittedly the full functional equivalent of the claimed process, and since the claim was amended, not to avoid prior art (there was none showing aeration), but merely to describe an operative range of the process, there is no file wrapper estoppel precluding a finding that the accused process as a whole, with its "about 46-50%" cyanate, is for all practical and material purposes the same as and is an infringement of *about* 40%, giving due regard to the qualifying word "about".

3. The Charge of Misuse is Unsupported in Fact

Did the Court of Appeals err in twice affirming the District Court's Finding that there was no evidence (as contrasted with unproven statements by counsel) that Respondents at any time, place or manner used the patent to coerce anyone into buying the special salt mixtures used in the patented process, or in any way, shape or form used the patent as a lever to sell such special sale mixtures to anybody, the evidence being all to the contrary, and therefore, as a "Fact" there is no misuse of the patent-in-suit.

RESTATEMENT OF THE CASE

The Patented Process

The patent-in-suit is for a *process* which generally consists of immersing ferrous metal parts in a liquid bath formed of a molten mixture of high cyanate-cyanide, while bubbling air (called "aeration") through the bath. Aeration, i.e., bubbling air through the bath, is the gist of the invention. (P.A. 24a, lines 28-29).

The same process *without* the aeration (called "soft nitriding" or "non-aerated") was old, was commercially worthless and was abandoned by the few companies in West Germany who tried it out because of erratic, inconsistent, non-uniform results. It was never used in the United States. The *aerated* patented process (referred to in the United States by the trademark or service mark "TUFFTRIDE") has had a revolutionary impact upon the metal treating industry and has been adopted throughout the world.

The patented process improves the wear resistance; fatigue resistance, toughness, anti-gall and anti-seizure characteristics, and corrosion resistance, while maintaining ductility and eliminating brittleness, of all ferrous metal parts including cast iron, steel alloys, etc. Moreover, there is no significant distortion caused by the treatment, thus eliminating conventional prior art post-treatment straightening and machining.

The process is used on a variety of industrial parts, such as automotive crankshafts, gears, computer components, dies, etc. It upgrades these parts by giving them longer useful lives. Also, it upgrades ferrous materials, thereby enabling the use of cheaper metals or smaller sized parts to perform the same functions as more expensive metals or larger size parts.

Significantly, no one actually knows how or why the aeration process works. Every expert has a different theory.[7]

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[7] Petitioner's counsel's theory (Petition p. 4, lines 26-27) that aeration is merely to replenish the cyanate used in the bath is not only unsupported by any expert, but is directly contrary to the testimony of Petitioner's own expert metallurgist Bidigare, who testified that Petitioner did its replenishing of the cyanate content of its accused bath by simply shoveling in more cyanate when necessary, not by aeration (J.A. 350a-351a, 480a, 497a, 501a).

What is known is that when a ferrous metal part is immersed in the aerated high cyanate-cyanide bath, its metallurgical properties are substantially improved and the improvements are uniform, consistent and commercially acceptable. When the aeration is turned off, the degree of improvement drops substantially and the results are erratic and inconsistent, varying from part to part and from batch to batch, so that the parts are commercially worthless. No one knows why the patented aeration process works: but there is no doubt that it does work.

The aerated patented process was admitted by Petitioner to be novel (J.A. 1114a). Petitioner also admitted that no prior art teaches such aeration (1106a). The District Court upon hearing the testimony of eight metallurgists and engineers, plus a number of other technically trained people, seeing movies, demonstrative evidence, documentary evidence, etc., held the invention to be non-obvious and the patent valid. The Court of Appeals affirmed.[8]

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[8] Petitioner Motor City's defense that the patent was invalid because of fraud on the Patent Office was also rejected. Again, this defense was totally unsupported by evidence and was founded upon counsel's unsupported statements, which statements were directly contrary to the plain wording found in the Patent Office file wrapper. For example, Petitioner's contention that Respondent deliberately failed to advise the Patent Office that the non-aerated process was prior art was negated by the very first page, as well as subsequent pages, of the Patent Office file which state that the non-aerated process was known and that the invention here relates to adding the aeration step to such known process.

Background of Patented Aerated Process

The art here is metallurgical heat treating. It begins with prior art gas and liquid nitriding or cyaniding processes. In these, certain specific types of ferrous metals, not all, were immersed in heated nitrogen gas or molten cyanide baths for the purposes of *hardening* their surafces. These processes were time consuming (hours of treatment time for molten baths and days for gas treatment), very expensive, and they caused the parts to distort or bend during treatment, thereby requiring expensive post-treatment straightening or machining. Most significantly, they caused the parts to become brittle.

Around 1954, Dr. Johannes Muller, a metallurgist employed by Degussa in West Germany, discovered in his laboratory, that operating a nitriding-type bath with relatively high cyanate (i.e., roughly 30%) materially improved the wear resistance of the treated parts, but without the formation of the characteristic hardness and brittleness. Later, he discovered that fatigue resistance was also improved.

Without commercially testing the process, he enthusiastically published his discoveries,[9] calling this process "soft nitriding". Shortly thereafter, several German companies tried out the process on various automotive parts. They soon discovered, however, that in mass production, as contrasted to Dr. Muller's laboratory tests, the process was commercially worthless. The results were inconsistent, erratic and non-uniform from part to part and batch to batch.

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[9] This publication placed the non-aerated high cyanate-cyanide process in the public domain and is the one repeatedly described to the Patent Office in the patent and file wrapper.

Obviously, this is unacceptable in mass production, where each part must be the same as its corresponding parts. Hence, these German companies discontinued and abandoned the unaerated process, as did Degussa, Dr. Muller's employer. That non-aerated process, called "soft nitriding" was never introduced into the United States. No one uses it, not even Petitioner. It was a commercial failure.

However, Muller continued work in his laboratory to cure the fatal problem, but despite a number of changes and ideas, he himself failed. Finally, in February of 1959, (J.A. 21a), Dr. Muller, collaborating with Carl Albrecht, another Degussa technical employee, jointly conceived the idea of adding aeration to the known bath. This became the patented process.

Such aerated process, from the start, and ever since, has produced reliable and consistent results of an industrially acceptable caliber. Unexpectedly, the results produced by the aerated process were also far superior in quality to that of the abortive earlier non-aerated process.

Just why aeration works was a subject of considerable testimony of a number of experts, each of whom gave a different theory. For example, metallurgist Kates testified that it has a "catalytic effect" (J.A. 707a), whatever that means. Of all the theories presented in the record, the only really acceptable one was that of metallurgist Mars, who stated to the effect that while he believes that there is some sort of chemical reaction going on, he really does not know what it is (J.A. 765a-766a).

The record shows that aeration certainly does something unique, something more than merely replenishing cyanate. Proof of this is seen in the fact that when the aeration air control valve is turned off, even with high cyanate, the

process no longer works. The parts coming out are not acceptable. However, when the air valve is turned back on, the process again works and now the parts are uniformly and acceptably nitrided.

Kolene's Introduction of the Patented Process Into the United States

Kolene has long been in the business of selling various chemical salt mixtures and processing equipment used in industrial molten salt bath processes, such as descaling, desanding, degraphitizing, paint stripping, etc. (J.A. 87a-88a).

While visiting Degussa on business in 1958, Kolene President Shoemaker was told of Dr. Muller's laboratory results in improving wear resistance.[10] Becoming impressed, he made inquiries upon returning to the United States, to ascertain if such a process would be salable (J.A. 91a). He quickly learned that "soft nitriding" was contrary to the accepted understanding of metallurgists, who equated "nitriding" with "hardening" (J.A. 91a-92a). The skeptical metallurgists were uninterested in the process (J.A. 91a-92a). His own technicians at Kolene told him that he had been sold a "bill of goods" (J.A. 91a) and that he was "nuts" (J.A. 518a).

Nevertheless, Shoemaker returned to Germany in 1959 to evaluate the process (J.A. 174a). By arrangements with Lucas Miel, at that time president of Commercial Steel Treating Corp., the largest heat treat shop in Detroit, he took with him George Bidigare, a metallurgical expert and experienced in heat treat operations, then employed by Commercial.

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[10] In 1958, this was the non-aerated process, later abandoned.

At first, Degussa refused to disclose the nature and details of the process (J.A. 95a-96a) to Bigidare. However, upon Bidigare's promise to maintain the information in confidence (J.A. 96a-97a, 275a-276a), Degussa disclosed the process details in confidence, over a several week period (J.A. 97a, 275a, 377a-378a) late in 1959. Since the aeration step had by that time (1959) already been added by Degussa, what they were then shown was the aerated process which ultimately became the patented process in suit.

During that visit, because of the metallurgists' earlier skepticism and resistance to the term "soft nitriding" as contrary to the understanding of the art that nitriding was a hardening process, Shoemaker coined the word "TUFFTRIDE". This trademark was used thereafter for the process in the United States. In Germany, the process has since been called "TENNIFER". Only Petitioner's counsel calls the aerated process "soft nitriding".

Upon their return to the United States, under a joint venture, a "TUFFTRIDE" installation was set up at Commercial under Bidigare's supervision. Kolene supplied a man to work with him (J.A. 99a) and supplied the salt mixtures. Some 200,000 parts were experimentally processed with complete records on each (J.A. 99a).

Kolene also entered into an agreement with Degussa, wherein the patent was assigned to Kolene, but with certain reversionary rights left to Degussa. That explains Degussa being made a party here. By that agreement, Kolene is free to exploit the process as it sees fit (J.A. 183a, 195a).

The Patent Litigation

Unfortunately, there soon was a falling out between Kolene and Commercial and the joint venture ended. Nevertheless, Miel and Bidigare continued to use the process at Commercial, without permission. The result was litigation between Kolene and Commercial (i.e., Miel and Bidigare) (J.A. 598a-599a). That litigation was settled in 1963, when Miel and Bidigare left Commercial, whereupon Commercial became a heat treater franchisee of Kolene.

The present suit was filed when Miel, Bidigare and Grafmiller (another Commercial metallurgist) organized Petitioner Motor City to continue their efforts to use the process in suit (J.A. 370a), which they had learned in confidence from Degussa, via Kolene. Shepard was also sued. Shepard was preparing (Pet. 48a) the necessary salt mixtures in Motor City's shop.[11]

There have been no other lawsuits involving the patents here in suit.

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[11] Throughout this suit, Petitioner has referred to Shepard as a "manufacturer" or as a "manufacturer's representative". However since Shepard has no factory, no equipment, no employees, no office and his alleged "manufacturing" consisted of physically mixing salt and casting salt bricks for Petitioner only, and in Petitioner's premises only, using Petitioner's equipment only, Trial Court and the Appellate Court rejected this fictional characterization of "manufacturer". Shepard was simply another hired hand at Petitioner's shop, but with a fancier title. That he could easily mix the required salts in the relatively small quantities needed for Petitioner's own use comes about because of Bidigare's knowledge acquired from Degussa.

The Salt Mixtures Used in the Patented Process

There is nothing "conventional"[12] about the special salt mixtures used in the patented process. They are not staple articles of commerce. Although the individual cyanide and cyanate ingredients used in making the mixture are commercially available, these contain varying amounts of both known and unknown impurities.

In the beginning Kolene attempted to produce the salt mixtures from Degussa's formulations (J.A. 192a), but with nearly disastrous results (J.A. 192a). The salts are poisonous and hazardous. They require expensive specialized equipment for safe manufacturing and handling on a commercial basis (J.A. 192a-194a). After some of the lethal powders blew out of Kolene's plant (J.A. 192a), Kolene gave up its manufacturing attempt and thereafter bought its salt mixtures from Degussa (J.A. 108a, 109a) for resale to its own customers (J.A. 108a).

Degussa, of Frankfort, Germany, is a large, long established, highly experienced manufacturer of cyanide and cyanate salts and reliable, proven salt mixtures (J.A. 108a, 174a, 193a). Thus, Kolene and all of its salt mixture customers use the identical and proven reliable salt mixtures that also are proven as reliable in Kolene's laboratories and in Degussa's laboratories.

As will be pointed out later, this is legally significant to Kolene's "heat treater" franchisees, who rely upon the trademark "TUFFTRIDE" as a guarantee of nationwide uniformity of salt mixture formulations, quality, purity and impurity, in guaranteeing uniformity and consistency

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[12] Petitioner's Brief, page 9, line 1.

of process results upon their customer's parts. Since all franchisees use the same proven, reliable salt mixtures from the same source, quality can be uniform on the same parts processed in different shops at different times. Also, laboratory and quality control help (e.g., trouble shooting) is available from Kolene and Degussa laboratories.

So far as we know, no one commercially manufactures these special salt mixtures in the United States. There is no evidence on the record as to whether or not any shops mix their own requirements from commercially available ingredients, as Petitioner does.

Kolene's Exploitation of the Process-in-Suit

Kolene sells equipment and salt mixtures to two different classes of customers, namely, (1) "captive shops" (98% of market, J.A. 105a) and (2) "heat treaters" (two percent of market, J.A. 107a-108a).

(1) "*Captive Shops*" are manufacturing company internal heat treating departments. They process parts belonging to their own company. They set their own standards and controls (J.A. 277a). They do not sell heat treating services to others, nor do they operate under the "TUFFTRIDE" trademark or franchises. Their results are not guaranteed by Kolene's trademark. Their failures or successes are their own problems, not the problems of Kolene, and not affective on the tradename "TUFFTRIDE".

Kolene has no agreements at all with captive shops (J.A. 106a). They can buy whatever and wherever they please (J.A. 106a). As its sales policy, Kolene has not used its patent in selling anything to captive shops, but rather bases its sales effforts on being a good supplier (J.A. 104a-

105a, 215a). Kolene has never asserted its patent against any captive shops (J.A. 215a).[13]

Some captive shops buy some equipment from Kolene. Knowing not to the contrary, Kolene assumed that all brought their salt mixtures from Kolene, particularly since the mixtures are dangerous, and because proven reliable mixtures are necessary to avoid the risks of mistreatment or damage to valuable parts in unproven chemicals. However, for all that we know, some captive shops may mix their own.

(2) "*Heat Treaters*", accounting for only two percent of the market, are handled differently (J.A. 107a-108a). These sell heat treating services under the "TUFFTRIDE" service mark. Since they treat parts owned by their customers (J.A. 276a-277a), their standard of care and their liabilities for mistreatment must of necessity be higher than captive shops (J.A. 277a). They are liable for ruined parts (J.A. 277a, 811a); they cannot afford to experiment or make mistakes. Their successes, and their failures, are the problems of Kolene; and are seriously affective on the "TUFFTRIDE" trademark.

For "heat treaters" operating under the trademark "TUFFTRIDE", Kolene has set up a franchise system, under which franchisees pay a royalty to sell services under the trademark. In return, Kolene promotes the mark nationally so that large multi-plant manufacturers send their parts for treatment to the nearest franchisee. Thus, identical parts may be treated by different franchisees in different shops and at different times. However, the "TUFF-

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[13] In fact, Kolene has never asserted its patent against anyone, except the Miel-Bidigare-Grafmiller-Shepard crowd, first operating under the name Commercial and now under the name Motor City.

TRIDE" mark guarantees the results to be the same from coast to coast, and at all times.

The customers of the heat treaters rely upon the reputation and reliability of the "TUFFTRIDE" mark (J.A. 109a) and look to Kolene as responsible for reliability. Franchisees are required to follow Kolene's quality control standards and processing procedures, so that each franchisee matches the standards of the others to produce uniform and consistent results regardless of the time or place. Kolene's laboratory people and its technicians help the franchisees and advice on quality, operations, etc. (J.A. 229a). They trouble shoot on failures, and profitably learn from successes of the heat treaters and pass on, as teachers, what they learn.

A dominant or key element in the process is the necessity for uniformity and maximum quality of the chemical salt mixture used (J.A. 226a, 230a, 231a). Thus, all trademark franchisees are required to use the same uniform, reliable, proven salt mixtures from the same source. In this way, all have identical quality, identical formulation and identical known and unknown impurities. They and their customers rely upon the mark "TUFFTRIDE" as their guarantee of uniformity—a most essential ingredient in multi-plant operations.

Unlike the salt mixtures, where the unknown variables of chemistry make it essential that all franchisees use the same chemical mixtures, the equipment used in the process need not be identical. Hence, franchisees are under no obligation to buy the specified equipment from Kolene, and some acquire equipment elsewhere, wherever they please. Likewise, there are no controls over prices or over maintenance of prices charged by franchisees, who compete with each other for business.

Since captive shops operate on their own in any way they please on their own company's parts without guarantees from Kolene, they are under no obligation to buy salt mixtures or anything else from Kolene. In contrast, since heat treater franchisees sell under the guarantee of uniformity and reliability, provided by the trademark "TUFFTRIDE", they are required to follow Kolene's controls as to operating procedures, chemistry, use of the same salt mixtures produced by Degussa and sold by Kolene etc.

Only where the process is sold under the "TUFFTRIDE" mark is there any purchase requirement—and that requirement is for the *only* thing critical to that guarantee of uniformity—the salt mixtures. Since captive shops (98% of market) do not operate under the Tufftride guarantee, there is *no* purchase requirements at all. Since equipment used, while important, is not critical, there is *no* equipment purchase requirement at all.

If a "heat treater" does not operate under the Tufftride trademark guarantee there is no salt purchase requirement. This is evidenced by the fact that even this Petitioner was offered an ordinary patent license, with *no* salt or other purchase requirements, subject only to its not operating under the "TUFFTRIDE" mark. Petitioner refused this offer.[14]

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[14] The record shows that this Petitioner operated under the TUFFTRIDE mark, receiving and filling orders for "TUFFTRIDE" processing. (P.A. 32a, 33a, 57a.)

Impact on the Art

When the Patented Process was first introduced in 1959, it was rejected by metallurgists with derision (J. A. 91a-92a, 102a), ridicule (J.A. 518a), skepticism (J. A. 638a-639a, 737a), disbelief (J. A. 735a), caution (J.A. 789a), resistance (J. A. 735a) and amazement (J. A. 638a). Metallurgists traditionally equated "nitriding" with hardness and brittleness (J.A. 677a-678a, 695a, 739a). They refused to accept the notion that this new type nitriding process produced "soft" or "ductile" rather than hard or brittle, results (J.A. 102a, 697a, 792a-793a).

A program of "de-teaching" was necessary before metallurgists would consider the process (J.A. 736a). For example, one early heat treat franchisee ran free samples for 18 months before it could make a sale (J.A. 637a-638a). "Eyeball to eyeball type selling" was required (J.A. 798a).

After long, expensive sales and promotional efforts, coupled with part-by-part, sometimes dramatic demonstrations, the traditionally adverse thinking reversed. One dramatic demonstration was the desperation treatment of diesel engine crankshafts for International Harvesters. These shafts fatigued to the point where they broke and caused the engines to explode (J.A. 665a-668a). Harvester was faced with the necessity of designing a new engine. However, after treatment by the "TUFFTRIDE" aerated process the problem was cured (J.A. 665a). No new engine was needed. Since then, Harvester has sent its engine crankshafts to two different "TUFFTRIDE" franchisees, one in Illinois and another in Detroit (J.A. 671a, 784a), which emphasizes the necessity of uniformity of results between different franchisees. Here, Harvester relies upon Kolene's control of the franchisee processing, bottomed upon

the reputation for reliability and uniformity of the service mark "TUFFTRIDE", in entrusting expensive crankshafts to two different shops for processing.

Another dramatic demonstration was the upgrading of 80 horsepower "Jeep" engines to 140 horsepower by processing their crankshafts (J.A. 152a-153a) by the "TUFFTRIDE" aerated process.

Since its acceptance, the patented process has been enthusiastically praised by metallurgists skilled in the art, e.g., "new, fantastic" (J.A. 773a, 775a), "biggest breakthrough in the heat treating field for several generations" (J.A. 638a), "most impact on the heat treatment of metals . . . in the last 25 years" (J.A. 685a); "it sure booted the heat treaters in the pants" (J.A. 816a) and "it woke them up to a new technology" (J.A. 816a).

The record is replete with praises of the process (e.g., see Exhibit 10); it has been adopted all over the world by major industries. Kolene's "TUFFTRIDE" franchisees cover the entire United States. Example after example of spectacular upgrading of the useful life of industrial parts, made of all different types of ferrous metals, are found in the record. They are too numerous to mention here.

Permissible Variations in Percentage of Cyanate

The invention is adding "aeration" to the earlier known bath. The amounts of the bath ingredients needed are flexible, provided that the essential and unique aeration step is present. Unlike some other chemical processes, exactness or precision of amount is not necessary. Here, a relatively wide range of cyanate works.

Thus, patent Claim 1 states the cyanate to be "between *about* 25 to 40%". To be chemically operative, there must

be at least about 25% cyanate; below that amount, no worthwhile results are produced. Hence, as a chemical requirement, the "about 25%" minimum is critical. This is clearly described in the patent file wrapper.

The upper "*about 40%* is different. It relates to an early equipment problem, not a chemical requirement (J.A. 100a-101a, 155a-156a, 159a, 163a, 205a, 207a, 309a-310a).

Early in the use of the process, the molten salt bath was contained in a vessel called a "pot", made of an iron material. It was discovered that the bath attacked or nitrided the pot wall, producing a sludge of iron nitride particles in the bath (J. A. 155a-156a). Since the sludge interfered with the processing (J. A. 155a-156a), it had to be periodically shoveled out by hand (J.A. 100a-102a). This was dangerous because of the poisonous nature of the salts as well as about 1000°F temperature of the bath (J.A. 101a).

Below about 40%, when the pot was iron, the pot sludge formation problem was tolerable (J.A. 159a, 163a). Beyond that, sludge formation became more of a problem, interfering more with efficient, consistent commercial operation (J.A. 157a, 163a).

Thus, as the Trial Court found, after hearing the testimony of the various experts and seeing the evidence, the then known optimum operating range or best mode of operation was above about 25% for chemical reasons and below about 40% for practical sludge reasons (J.A. 159a, 205a, 207a). "About 40%", as was found by the Trial Court was not a critical limitation in any patentability sense, since patentability was predicated upon the addition of the inventive aeration step.

The word "about" contemplated and was notice on the patent record of permissible variation in, or a functional

approximation of the cyanate percentage (see Trial Judge's Findings, P. A. 34a-35a, 36a).

Sometime after the process was commercially adopted, Muller found that titanium resisted bath attack and thus reduced sludge formation (J.A. 700a). The subsequent adoption of titanium pots permitted even greater variation in the about 40% cyanate. It was this better pot that permitted Petitioner to increase its cyanate to about 46-47%,[15] wthout harming the process results and for the sole purpose of arguing non-infringement for the semantic difference of about 40% versus about 46%.

Motor City's metallurgist Grafmiller even later found and adopted another pot material, a stainless steel, which also resisted the corrosive bath and which is referred to in the Petition (P. 5, lines 19-20). However, the patent-in-suit is for a *process,* not for a pot. The accused process is the same as the patented process in all respects, regardless of what kind of vessel or pot is used to contain the bath chemicals.

Petitioner's Accused Activities

When the Court of Appeals originally characterized Petitioner's activities as "piracy" (P.A. 9a), it was not wrong, despite the Court's later graceful striking out of that word from its Opinion (P. A. 16a).

From the 1960 beginnings of the split between Kolene and the Miel-Bidigare crowd, then operating as Commer-

[15] Although Petitioner claimed to be operating at about 48-50% cyanate, the trial evidence showed that Motor City actually operated at about 46% and at about 47% cyanate, demonstrating the imprecision or lack of criticality of the cyanate percentage, and also the imprecision of Petitioner's Statement of Fact.

cial, these same people continued to use the patented aerated process learned in confidence by Bidigare from Degussa.

By the time the patent-in-suit issued in 1962, the titanium pots had become available. Thus, on advice of some patent attorney, they claimed that shoveling excess, unnecessary cyanate into the pot enabled them to argue noninfringement (J.A. 591a, 506a). Otherwise, the accused process was identical, including identical purpose, function, operation and result, to the patented aerated process (J.A. 283-285a, 413a, 415a-416a, 382a-387a, 397a-399a, 402a, 506a). They admitted that the extra cyanate made no difference (J.A. 491a, 506a).

When the Miel-Bidigare-Grafmiller crowd left Commercial and organized Motor City in 1963, they continued operating in exactly the same way. Since the beginning, they have advised their customers that the accused process is the equivalent of the "TUFFTRIDE" process (J.A. 290a, 413a-415a), and they have traded upon the mark "TUFFTRIDE" in their sales efforts (J.A. 413a-415a), including receiving and filling orders for "TUFFTRIDE" (J.A. 412a, Ex. 8, Tabs. 1-5, Vol. 1, Plaintiff's Exhibit).

Motor City mixes its own salts, by mixing a commercial grade of cyanate (containing two-four percent unknownn impurities (J.A. 414a-475a)[16] with bricks of nearly pure cyanate (J. A. 350a) which Shepard makes from time to time, as needed, at Motor City's premises (J.A. 493a-497a). The cyanate content is replenished by shoveling

[16] Customers advised Motor City of occasional lack of uniformity between identical parts processed by Motor City and by a nearby Tufftride franchised heat treater. We can speculate that the differences in salt mixture and their differences in impurities are at the bottom of this.

cyanate bricks into the bath, according to Petitioner's metallurgist Bidigare (J.A. 497a). Petitioner's other metallurgist Grafmiller checks the chemistry of the bath, once every day or so (J.A. 501a) and orders a workman to shovel in more cyanate when the cyanate content reduces to the level where more is needed (J.A. 480a, 501a).

The imprecision of this practice demonstrates the lack of criticality of the upper limit of cyanate content and corroborates that it is an approximation, with Petitioner's about 46% cyanate, being the functional approximation of, and for all material and practical purposes the same as, the claim "about 40%".

REASONS FOR DENYING THE WRIT

This is an ordinary Patent Infringement Suit, decided upon its own unique facts, in accordance with established, recognized law and judicial procedures. There are no novel questions of law presented and no disputes raised as to differing interpretations of the law. The questions presented by the Petition are specious, as well as inaccurate. In essence, they ask this Court to try the case de novo. Hence, the writ should be denied as being without merit.

Now, we turn to each of the issues presented by the Petition.

1. The Claim is Literally Infringed, and "That is the End of it".

Petitioner admittedly uses the invention, the step of aeration upon which the patent is predicated. Its defense of non-infringement was based solely upon a non-functional, slight increase in one chemical ingredient (cyanate) which was not the invention and upon which the patent was not predicated.

More specifically, Petitioner argues non-infringement because of an alleged *semantic* or *literal* difference between the patent claim *about* 40% and the accused process *about* 46-50% of the cyanate ingredient of the salt mixture used in the process. The extra cyanate was admittedly added *solely* for the purpose of making this non-infringement argument (J.A. 506a). Petitioner also admitted that the accused process is the same as the patented claimed process in all material respects, including the same function, purpose, operation, results, etc. (J.A. 238a-285a, 413a, 416a, 387a, 397a-399a, 506a, 591a). During trial Petitioner's counsel conceded "They are equivalent" (J. A. 414a).

Petitioner's expert metallurgist testified that there is no difference whatever in functioning of the process between about 40% and about 50% cyanate (J.A. 506a), and that the additional cyanate was simply added to avoid the patent (J.A. 506a).

After hearing all the trial witnesses and seeing all the other evidence, the trial Judge found that in the context of the facts in this suit:

> "But the difference is colorable merely. There is no substantial or material difference. There is, in fact, *literal readability* if proper weight is given to the qualifying word 'about'." (P.A. 33a).

> "As a matter of law, the term 'about' is a clear warning that exactitude is not claimed but rather a contemplated variation." (P.A. 31a).
>
> "It is our conclusion as to infringement that the accused process is identical in all material respects to the process defined in Claim 1, the slight increase in the cyanate employed by Defendant being immaterial." (P.A. 37a).

The Court of Appeals, confronted with the question of whether the Trial Judge's findings were clearly erroneous, affirmed, finding for themselves that:

> ". . . We agree for practical purposes this was within the range defined by the claim. We therefore agree with the District Court that the claim literally reads on the accused process. Our decision on this point is also affected by the fact that Motor City chose the 46-50% cyanate operating level for no other purpose except to avoid infringement of the patent." (P.A. 8a, lines 20-27).

We submit that further review by this Court of the Lower Court's findings of infringement is unwarranted and serves no useful purpose. It is evident that the Trial Judge and the Court of Appeals, twice, carefully considered and carefully reviewed the claim, as their lengthy opinions record, and did not ignore the claim in any respect whatsoever, as suggested by Petitioner.

If this Court agrees with the Lower Courts' findings of literal infringement then "that is the end of it", *Graver v. Linde, supra.* That is, the issues of equivalence and file wrapper estoppel become moot, because the claim is literally or directly infringed. Thus, Question No. 2 becomes moot and this Court may wish to skip it and turn directly to Question No.3.

2. There is no File Wrapper Estoppel Here to Preclude a Finding of Infringement

The issues of "File Wrapper Estoppel" becomes relevant only where it is necessary to rely upon equivalency to establish infringement. That is, it arises only where there are material differences between the claimed and accused process, but such differences are found to be equivalent. In a case of infringement by equivalence, an expansion of the scope of the claim to cover the materially different, but equivalent accused process, may be barred by the so-called "File Wrapper Estoppel", thus precluding a finding of infringement.

In this lawsuit, since the Lower Courts found that, in factual context the claim "literally reads" on the accused process (P.A. 8a), and that there are no material differences between the claim as written and the accused process, we can stop here. That is, a determination of infringement by equivalence and whether such infringement is barred by the "File Wrapper Estoppel" are moot. However, since Petitioner raises the issues, we respond.

Equivalence was conceded by Petitioner (J.A. 414a). Thus, the Trial Court also found infringement due to equivalence of the accused process to the claimed process, in accordance with *Graver v. Linde,* 339 US 605. The Trial Court stated:

> "We find specifically that the accused process is the full equivalent of the process defined in Claim 2 [sic 1] in all material respects and is an infringement thereof."

However, despite the accused about 46-50% cyanate being the full functional equivalent of about 40% cyanate Motor City argues that it nevertheless escapes infringe-

ment because the claim must be limited to 40% cyanate *and no more* by an alleged "File Wrapper Estoppel" which proscribes a finding of infringement. The Lower Courts rejected this argument.

In essence, a "File Wrapper Estoppel" is a prohibition against attempting to recapture in Court an area abandoned or surrendered in the Patent Office in the effort to obtain the patent. *Kaiser v. McLouth,* 6CA 1968, 400 F. 2d 36, 158 USPQ 565, 581, cert. den. 160 USPQ 832, March 3, 1968, expresses it thusly:

> "The basic principle underlying file wrapper estoppel is that a party cannot take *inconsistent positions* concerning the same subject matter in different transactions." (Emphasis added).

There is no file wrapper estoppel here because Respondent does not here seek to disavow the "*about* 40%" of the claim or to expand the scope of the claim or to recapture something given up in order to obtain the patent. In *context,* bearing in mind that the patent is for adding aeration, and not for precise amounts of one of the chemical ingredients, "*about 40%*" is literally the same as "about 46-50%". The difference is colorable, immaterial and nonfunctional. At all times, Respondent has consistently stressed the aeration step as the invention. The factual pattern which commonly creates an estoppel, i.e., where the inventor narrows his claimed invention to avoid prior art and to obtain the patent, and later attempts to recapture in Court what was disavowed in order to embrace the accused process, does not exist here.

The file wrapper estoppel argument is bottomed on the fact that the patent application Claim 1 (see Petition Page 6) originally submitted by Degussa's German attorneys to the U. S. Patent Office, omitted all ranges of chemi-

cal ingredients. Consequently, the then claimed process was inoperative because it inherently included from zero to 100% cyanate, meaning from below the amount where the process chemically works, up to a point where there is no room for cyanide, also a required ingredient. Thus, Kolene's U. S. attorneys, in later taking over the patent application work before the Patent Office, voluntarily amended the claim to include the then known practical operative range of between about 25 and 40% cyanate (see application Claim 12, found on Petition pages 6-7, which later became the Patent Claim 1-in-suit).

The amendment was not made "in response to an objection on prior art" as mistakenly contended by Petitioner (Petition page 8, lines 27-28), as there never was any prior art showing the inventive aeration process.

It was not a surrender of the operative process. What was surrounded were the inoperative ranges (i.e., ranges below the needed amount of cyanate and ranges above the point where there is no room for the needed cyanide). *The effort was to define an operative chemical environment for the inventive step of aeration.*

The Lower Courts in reviewing the Patent Office file wrapper found that taken in context, the claimed "about 40%" was never meant to be and was never claimed to be anything more than a functional approximation, and was never argued to the Patent Office as being a critical maximum limit. This contrasted with the about 25% which is a chemical operative limitation of the process.

Thus, before the Patent Office, as before the Courts, Kolene at all times consistently contended the invention to be the addition of the step of aeration to the earlier known and commercially useless, abandoned, non-aerated or "soft-nitriding" process. At no time has Kolene taken an incon-

sistent position. In context, as found by the Trial Court, "about 40% was good enough" (J.A. 45a, lines 5-6) to express the permissibly imprecise, practical range of operable equivalents and was an express reservation of operable or functional "equivalents . . . on the record".

An excellent demonstration of that imprecision and permissible variation, is that although Motor City says that it uses about 50% cyanate, evidence showed that the cyanate content was actually at about 46% and at about 47%. This is buttressed by Motor City's practice of checking the cyanate content only once every day or so and then adding more cyanate with a shovel and not with any precisely calibrated laboratory measuring device.

Petitioner's position here, in the Patent Office, in the Trial Court and before the Court of Appeals, has consistently been the same—the invention is adding aeration to the operative chemical content of *about* 40% cyanate. Consequently, as the Lower Courts found, there is no file wrapper estoppel which limits the claimed process to exactly 40% and no more.

3. Petitioner's Attempted Fraud on the Patent

Relevant to the District Court's separate finding of infringement by equivalence, is the statement in *Graver v. Linde,* 339 US 605, 609, 610, 85 USPQ 328, 330, 331, that

> "A finding of equivalence is a determination of fact . . . and should not be disturbed unless clearly erroneous. Particularly is this so in a field where so much depends upon familiarity with specific scientific problems and principles not usually contained in the general storehouse of knowledge and experience."

> "The essense of the doctrine [of equivalence] is that one may not practice a fraud on the patent." (608)

Here we witness a transparent attempt at "fraud on the patent". Despite acknowledging that it took and used the patented process in all material respects, including the inventive aeration, Motor City argues that its infringement should be excused merely because it throws into the bath a few extra shovelfuls of useless and unnecessary cyanate, admittedly for the sole purpose of making this non-infringement-file wrapper estoppel argument. The District Court rejected this argument as factually and legally unsound and contrary to common sense. The Appellate Court rejected it twice. We ask this Court to reject it too.

4. The Charge of Misuse of Patent is Unsupported in Fact

Petitioner's charge that the patent has been misused by allegedly tying the sale of unpatented salts to the patent-in-suit is false. That charge is based upon wishful thinking and speculation of counsel, not proven fact.

Not a single shred of evidence was even offered, let alone proven, to show that anyone, anywhere, at any time has ever been coerced by the patent into buying unpatented salt mixtures, or anything else, for that matter. Nor was there a single shred of evidence even offered, let alone proven, that Respondents at any time, or in any manner, used the patent as a lever to sell unpatented salt mixtures. There was no evidence that Kolene granted patent licenses dressed up as trademark licenses. Contrary to Petitioner's assertion (Pet. p. 18), there is no evidence

that the patent had any "market power", or that Kolene attempted to use any such "market power". The evidence was to the contrary. Nor was there any evidence that Kolene refused to grant written licenses to any captive shops or that subject ever even arose at any time. Whatever evidence there was, was directly to the contrary.

The misuse charge as presented in the Petition, is made up of a mosaic of unrelated quotations, counsel's speculations, and half-truths which are put together out of context. When read in context, as for example in the Opinions of the District and Appellate Courts, the charge can be seen to be manifestly false. As the District Court said (P.A. 43a):

> "The argument by Defendants that Kolene has misused the patent comes to us with very skimpy proofs. Much of Defendant's 'misuse' case rests squarely upon argument and speculation. Very few hard facts are presented."

(and P.A. p. 52a-53a):

> "It urges vigorously that wit respect to captive shops (which do not employ the trademark Tufftride), the practice of Kolene is to force the use of salts by lawsuits. You have to have it [an implied license] or you go out of business because they sue everybody.
>
> What Defendant is asserting here is actually coercion . . . But Defendant's argument in the case before us founders on the record.
>
> There are before us no such suits. There is no evidence of threats of infringement, and no evidence of any kind that the captive shops or any franchisee have been pressured in any way by the existence of the patent-in-suit or its employment.

> In short, on this issue of coercion raised by the Defendant, all we have is counsel's charge and speculation, unsupported by evidentiary showings".

The reason there is no evidence showing the tying of salt sales to the patent is because that charge is not true. If it were true, we can all presume that there would have been plenty of evidence.

The issue here is one of fact, not law. The law is clear that the owner of a process patent may not use that patent as a lever to coerce or to tie the sale of unpatented salts. *Morton Salt v. Suppinger,* 1941, 314 US 448. Here, there are no facts to support this serious charge. All we have is counsel's speculation, treated by Petitioner as if proven.

We could stop here with a simple statement that the charge is utterly and completely without substance and totally unsupported in fact, as found by both the Trial Court[17] and twice by the Appellate Court. However, since this charge is so serious, and has been so persistently argued, we briefly review the relevant facts which negate the charge.

98% of the market, the captive shops, are totally uncontrolled by Kolene in any way. There are no agreements, no requirements for agreements, no requirements to buy salts, no requirements to buy equipment or anything else from Kolene. Kolene's policy is not to use patents as a

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[17] (P.A. 53a). "Upon the record we cannot find that the patent-in-issue has, in this suit, or any other, been held as a club over the salt users to bring them into line. It is our judgment, having heard and seen the witnesses presented, as well as other evidence, that the charge is without foundation."

sales weapon in selling to manufacturing company heat treating departments or "captive shops".[18].

Petitioner's statement that "Respondents have announced that no written patent licenses may be obtained" (Petition page 9, lines 10-11) is totally unsupported in fact. Nothing in the record corroborates that purported announcement. We have no idea where Petitioner found that one.

Likewise, there is no evidence that "all users of the TUFFTRIDE process buy unpatented sales from Respondents except Petitioner" (Petition brief page 9, lines 15-16). That is counsel's unproven speculation. No one knows and there is nothing in the record establishing this either way.

It is false that " users of the aerated 'soft-nitriding' process not purchasing unpatented salts have been sued for infringement of the patent-in-suit" (Petition page 9, lines 15-18). The *only* suits have have been against the Miel-Bidigare-Grafmiller-Shepard gang, first when they

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[18] The record is to the contrary: Kolene's policy with respect to captive shops is "There's no royalty. There are no contracts. We only try to sell them equipment and salt" (Shoemaker J.A. 223a). "Our policy is not to sell patents. We try to sell our products on the basis of our being a good supplier and people wanting to do business with us. We do not use 'patent' as our sales weapon." (Shoemaker, J.A. 196a); and "Q. . . . Do you recall ever using the patent-in-suit to assist your sale of salts. A. . . . I never do". (Shoemaker J.A. 217a); and "It is not common in the Kolene Corporation, since our inception, to sell or promote our process on the basis of patents. We try to promote it on the basis of efficient and cost saving methods" (Shoemaker, J.A. 215a).

The only so-called written announcement in the record as to captive shops, is an early report in a trade association bulletin, to the effect that there is not going to be license or royalty fees charged to captive shops (J.A. 1066a). There are no "announcements", written or otherwise that "no written patent licenses may be obtained".

operated at Commercial and now operating at Motor City. There never were any suits against anyone else.

Two percent of the market, franchised "TUFFTRIDE" heat treaters, submit to quality controls and operating or processing restrictions, including the requirement that all use the same chemical salt mixture bought from Degussa via Kolene, because of the trademark guarantee of uniformity, quality, reliability, etc. (J.A. 226a). The patent has nothing to do with this (J.A. 231a, 217a, 215a).

The mark "TUFFTRIDE" is identified and advertised as a guarantee of uniformity of results from coast to coast. It guarantees the manufacturer that the same part will have the same treatment results, no matter which heat treater processes it and no matter when or where. Thus, manufacturers do send the same part to different franchised heat treaters, relying upon Kolene and the "TUFFTRIDE" trademark for reliability of performance and uniformity of results (J.A. 226a).

The chemical mixtures, being a critical element in uniformity of quality, must be the same. Since cyanides and cyanates from different sources may vary in purity (J.A. 231a) and may contain varying amounts of known and unknown impurities, the need for all franchisees to use proven mixtures from the same source is manifest. However, this requirement is based upon selling the service under the guarantee of Respondents' trademark "TUFFTRIDE" and not upon patents, as both the Trial Court and the Appellate Court found in reviewing the testimony and evidence. The requirement is only upon those who sell under the "TUFFTRIDE" mark, and no one else.

Where such heat treating services are not sold under the "TUFFTRIDE" mark, the use of identical mixture salts is not necessary and therefore is not required by Kolene.

The record shows that even Motor City was offered a choice of *either* a standard trademark franchise with salt purchases requirements *or* an ordinary patent license *without* a salt purchase requirement and without any control, but subject only to Motor City's discontinuing its practice and dispelling the impression that it was selling its services under the "TUFFTRIDE" mark of "TUFF-TRIDE" sponsorship. This fact clearly negates Petitioner's contention that the salt sales are tied to the patent or that the patent was used to coerce salt sales. Even Petitioner was not so coerced.

The charge of misuse was unproven; it was unproven because it was not true. Hence, yet another review by this Court should be denied for lack of merit.

SPECIFIC REPLY TO INACCURATE STATEMENTS IN THE PETITION

This case, from its inception, and right on through trial, briefing, appeal, appeal rehearing, and now, has been plagued with the substitution of counsel's "speculation and conjecture" for proven fact (P.A. p. 56a, line 21). The Petitioner's statement of the case, questions presented, and argument, deviate widely from the record of the facts adduced at Trial. As before the Court of Appeals, we point out here, some of the inaccurate statements, many based upon half-truths and statements taken out of context.

1. Petitioner's Cyanate Level

(Petition, p. 2, Question 2):

Petitioner claims to use 48-50% cyanate, admittedly for the sole purpose of arguing non-infringement (J.A. 506a) and admittedly for no useful processing purpose (J.A. 506a). Yet the proofs showed Petitioner used about 46% and about 47%. There was no evidence that the "accused process has frequently been operated at levels above 50% cyanate" (Pet. p. 8, footnote 3).

2. No Expansion of Claim

(Pet. p. 2, Question 3).

There was no expansion of the claim by the doctrine of equivalents to establish infringement. "About 40% was good enough" (P.A. 36a). With due regard to the word "about", and bearing in mind no material differences and no useful purpose for shoveling in excess cyanate (P.A. 31a), and that the invention was aeration, not precise amounts of chemical ingredients, *about* 40% in this context is literally infringed.

3. No Announcements that Written Process Licenses are not Available to Captive Shops

(Pet. p. 3, Question 5; Pet. p. 9, lines 8-11, and Pet. p. 10, lines 2-3).

There is nothing in the record regarding any announcements "that written process licenses under the patent are not available to captive shops" or the "granting captive shops implied licenses". There are no facts supporting

that assertion. To the contrary, the record shows that Kolene does not use its patent at all in connection with sales to captive shops (P.A. 51a) or "TUFFTRIDE" franchised heat treaters. As to a non-franchised heat treater (e.g., Petitioner), a written license under the patent was made available (P.A. 60a).

When Shoemaker told the captive shops that no "licenses or royalty payments" were going to be demanded of them, he was in effect telling the automotive industry that he was not going to ask for royalties—and would rely only on his company's reputation for service, quality, and trouble shooting help.

4. Purpose of Aeration

(Pet. 4, lines 23-31).

It is not correct; it is contrary to the record, that aeration is "to replenish the cyanate" or "to form cyanate at a rate sufficient to maintain the proper cyanate level". Even Petitioner replenishes its cyanate and maintains "the proper cyanate level" by shoveling cyanate into the bath when necessary. The record shows that the essential purpose of aeration is to produce uniformity and consistency of results, and qualitatively higher results, upon the treated parts (P.A. 23a). Just how or why aeration does that, nobody knows (P.A. 17a, at end).

5. Accused Process did not Result from any Developments by Petitioner

(Pet. p. 5, 3rd Para.).

The record shows that the accused process came from Degussa's confidential disclosure to George Bidigare, while he was then Commercial's metallurgist and acting as Kolene's consultant, and who later was one of the founders and the President of Petitioner. The accused process was not developed by Petitioner; rather, it was plagiarized from Respondents.

Long after Petitioner copied and adopted the patented process it copied Respondent's use of a non-corrosive pot to reduce pot formed sludge. However, the accused *process* was unchanged.

The switch in pot material is not relevant. The pot is not in suit. This suit relates to a *process,* regardless of what kind of container or pot is used to hold the bath chemicals.

6. Amendment to Claim was Voluntary

(Pet. p. 5, last Para.).

It is not correct that the patent application claim was amended "in response to a rejection on prior art" (Pet. p. 5, lines 27-28). There never was any prior art on the inventive step of aeration. There never was any prior art on the idea of adding aeration to the prior art non-aerated process (P.A. 38a, line 19). The amendment was made voluntarily in order to define an operative process and to disclaim inoperative processes (i.e., where the cyanate level was too low to be chemically effective, or too high to leave room for the needed cyanide).

However, in the context of this case, it really makes no difference whether the amendment was voluntary or not. We do not disavow the "about 40% cyanate; the word "about" plainly contemplates a permissible functional variation. However, to the extent that voluntary versus non-voluntary amendments could be considered to make any difference here, the fact is that the amendment was voluntary and not in response to any rejection nor in any effort to avoid prior art.

7. Neither the Sixth Circuit nor the District Court Ignored the "About 25-40%" Cyanate

(Pet. p. 7, lines 19-21).

Both Lower Courts intensively reviewed the patent file wrapper and found that giving due regard to the word "about", there was literal infringement of the claim. There was nothing "startling" about this Finding. In context, both Courts found that Respondents did not limit their claimed aeration process invention to 40% and no more, but to the contrary, made it plain on the public record that they were claiming a functional environment for the inventive aeration step. Petitioner used that invention, aeration, environment, and all.

While the claim recites a nitriding process, it should be noted that the invention is only in the step of aerating the earlier known, and abandoned, nitriding process—and thus creating a new process, new because of aeration, and uniformity of result.

8. Advice of Counsel is not Relevant

(Pet. p. 7. last Para.).

This is not the first case in which "experienced patent counsel" gave bad advice. In the final analysis, the Court must make its decision based upon the relevant facts and law, regardless of what counsel advised his clients.

9. These Are Not Conventional Salts

(P.A. p. 8, last para.).

They are specially formulated salt mixtures, very carefully compounded to be of proven purity, functioning, reliability, no matter where or by whom used (P.A. p. 51a, line 9).

10. Only Suits Have Been Against the Same Gang

(Pet. p. 9, lines 16-19).

It is not true that "all users of the aerated 'soft-nitriding' process not purchasing unpatented salts have been sued for infringement of the patent-in-suit". The only suits have been against the same Miel-Bidigare-Grafmiller-Shepard gang, first operating as Commercial and now operating as Motor City. There were no other suits (P.A. 53a).

The situation here differs markedly from those of the "misuse" cases, where there was proof of pressure and coercion, arising from multiple suits, and threats of suit. No such facts exist here. No one was sued but the Miel gang. No one, not even the Miel gang was threatened or refused a license. The major (98%) market was not

threatened with salt purchase demands. The salt purchase demands were confined to the small (2%) market whose primary concern was the trademark, the guarantee of purity of salt mix, of uniformity, of reliability.

Even Petitioner conceded, at Trial, (P.A. p. 58a, line 24) that a franchise whose primary focus was the trademark is proper.

11. The Testimony of Kolene's President as to Salt Purchase Requirements on Licensees, is Taken out of Context

(Pet. p. 11, footnote 6 and p. 12, footnote 7).

The quoted testimony of Shoemaker, Kolene's president (Pet. p. 11, footnote 6) is taken out of context. That testimony referred to "TUFFTRIDE" heat treater franchisees. The rest of the story is that Shoemaker further testified that "the prime business reason behind all our efforts with the Licensees is to have uniform 'TUFFTRIDE' processing by every Licensee" so that a multiplant customer could "send to a Licensee in California or into Pennsylvania or in Illinois and secure the same quality, the same product, the same process as he would get from any of the other Licensees" (J.A. 226a). Shoemaker further testified that even with a specification, the salt mixture varies from different suppliers, and thus, there is a need for an experienced, reliable supplier for all the franchisees (J.A. 231a).

Continuing on, Shoemaker testified that Kolene has never refused a license "because they [licensees] refused to purchase salt" (J.A. 231a). He indicated that it was in the interest of the "TUFFTRIDE" heat treater franchisees, as well as in Kolene's interest for all franchisees

to use the same uniform and reliable salt mixture to implement the guarantee of uniformity and to minimize liability to the customers.

Despite the minor significance of the patent clause in the franchises and the major significance of the trademark values in the franchises, Petitioner persists in talking about patent licenses with incidental trademark rights—but the record does not support such contentions or comparisons.

It is clear that the focus of the franchise is the trademark, the guaranty of the uniformity of quality, performance and supervision (P.A. p. 58a).

12. Exhibit Supply v. Ace, and Related Cases are not Apt Here

(Pet. p. 13).

The thrust of *Exhibit Supply v. Ace,* 315 US 126, and similar cases, is that a patentee may not limit his claimed invention in order to overcome objections based upon the prior art cited by the Patent Office, and thereby get the patent, and then disavow that same claimed limitation before the Court in order to recapture it. None of these cases are apt here, since at all times Kolene claimed the invention to be only the adding of the step of aeration to a known chemical environment. There was no attempt to overcome a prior art objection (there was no prior art on aeration). There is no attempt by Kolene to disavow the claimed operative range. There is no attempt by Kolene to embrace or recapture in Court something surrendered (the inoperative ranges) in the Patent Office.

It is not true that this Court held that in each and every case a limitation introduced into a claim disentitles him from the doctrine of equivalents and that a claim limita-

tion cannot be expanded by the doctrine of equivalents. *Exhibit Supply* did not so hold. It dealt with a case where a claim to a target or switch in a pinball machine, originally specifying the target to be *carried on* the table, was amended, *to overcome prior art,* to specify the target to be *embedded in* the table; and the claim was held to be not infringed by a target not embedded in the table.

Nor is *Hunt Tool*[19] contra—for in *Hunt,* as in *Exhibit Supply,* the prior art forced the abandonment sought to be disavowed in the suit. That is not the case here.

In Kolene, there is no recapture of a range abandoned. The claim, before amendment, specified no range whatever, and hence, covered every range, even inoperative ones. The areas abandoned are the inoperative ranges; there was no abandonment of an operative range.

In Kolene, there was no abandonment dictated by the prior art for there was no prior art showing aeration.

Exhibit Supply dealt only with a change in form, carried by vs. embedded in, dictated by prior art. No such situation exists here.

Exhibit Supply does not state that for all situations a limitation added by amendment must be strictly construed. It merely held that a claim revised from "carried by" to "embedded in" in order to overcome prior art, does not cover devices where the targets were not "embedded in".

Nor is *Borg Warner*[20] inconsistent with *Exhibit Supply.* In *Borg Warner,* the claim was not amended to overcome

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[19] *Hunt Tool Co. v. Lawrence,* 5th CA 1957, 242 F.2d 347.

[20] *Borg Warner Corp. v. Paragon Gear Works,* 1st CA, 1965 355 F.2d 400, 146 USPQ 507.

prior art, but, like Kolene, was amended to disclaim inoperative ranges or dimensions.

Nor were the opinions below in conflict with Justice Blackman's views, expressed in *Parmelee v. Zinc*,[21] cited by Petitioner at p. 14. In *Parmelee,* the Courts, below and on appeal, found no equivalence in fact, under all the circumstances, absence of a pioneer patent, presence of a crowd of prior art, no manifest injustice to patentee, etc. In the instant case, the facts are quite different. Here we have an uncrowded art, with the patentee's pioneer invention (aeration) appropriated by Defendant. Equivalence was found below (Pet. p. 30a, 32a, 33a). Petitioner neither here nor below, challenges the finding of equivalence.

At trial Petitioner's present counsel conceded equivalence (J.A. 414a).

> "The Court: Well, that is a very interesting question, whether or not they are equivalent.
> Mr. Adelman: They are equivalent".

13. Petitioner's Contention that "File Wrapper Estoppel is a Trap for the Unwary" is a Half-truth in this Case

(Pet. p. 15, line 1).

Petitioner took a calculated risk, plagiarizing the patented process in all material respects, and adding only a few extra shovelfuls of cyanate to the pot, only for the purpose of making legal arguments. Now Petitioner seeks to adopt the cloak of pious innocence, suggesting itself to be one of a group of trapped "unwary". In this case, such argument is manifestly without merit.

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[21] *Parmelee Pharmaceutical Co. v. Zinc,* 8 CA 1961, 285 F.2d 465.

14. There is no Need to Reaffirm this Court's "Historic View that Patents Cannot be Used to Monopolize Unpatented Components"

(Pet. p. 17, lines 18-21).

Neither Lower Courts raised any challenge to the established law that "Patents cannot be used to monopolize unpatented components". Rather, both Lower Courts held that this case founders on lack of proof.

Boh Lower Courts found that there were no facts offered, let alone proven, upon which to conclude that Kolene ever used its patent to monopolize unpatented components, i.e., salt or anything else. The law is clear and unchallenged. Reaffirming that law in this case is pointless.

15. There was no Evidence Relating to Tie-ins Due to the Process Being "Dominated by a Patent" or Due to the "Market Power of the Patent"

(Pet. p. 13, lines 14-15).

Nowhere in the record is there any evidence at all that commercial exploitation of the process-in-suit is "dominated by a patent". There was absolutely no evidence relating to the asserted "market power of the patent". Nor was there any evidence or proof of any tie-ins whatsoever, salt or anything else, based upon the patent.

The record clearly shows that the patent was never used against 98% of the market (captive shops). The record shows that the "TUFFTRIDE" trademark, not the patent, was the basis for the franchise program relating to the other 2% of the market, and that the trademark guarantee of uniformity was the basis for the salt mixture purchase requirements. No evidence was even offered, let

alone proven, in support of the charge that salt mixture sales were tied to the patent. Unlike *Morton Salt,* and similar cases, there were no suits by Respondents to bring salt users or sellers into line. The only suits here were against the same gang, and even they were offered the option of licensed use of the patent with no tie-ins or controls. This charge of patent tie-in is totally without factual foundation and based entirely upon counsel's speculation.

The franchise agreeemnts of Kolene are not patent licenses with trademark incidential, as Petitioner would have us believe. It is clear from the record that they are trademark franchises, where the tying relates directly to the quality of the services performed and identified and guaranteed by the trademark, and the patent clause provided no vehicle, no weapon, for control of goods, and was never used as a lever or coercive means for a control of goods (P.A. p. 56a).

It was not the market power of the patent that was important to the franchisees, but rather it was the market power of the guarantee of uniformity, i.e., the trademark (P.A. p. 57a).

It is not true that Petitioner did not use the trademark. The record is clear that its customers, and Petitioner itself, used the trademark (P.A. p. 57a, line 15).

The foregoing are examples of only some of the inaccuracies, statements taken out of context, half-truths, etc. There are many more. However, we submit that these are sufficient to demonstrate that Petitioner's arguments and contentions are unfounded in fact. Rather, they are based upon speculation and fiction.

CONCLUSION

It is about time that this case finally ended; it has been pending for over seven years, with the same arguments made over and over again by Petitioner, each time without proof, without factual support, and with fictionalized versions of the facts presented. Each time that the actual facts which were adduced at Trial have been examined, as contrasted with the wild speculations of counsel, Petitioner's arguments have been rejected as meritless. They still are meritless. No further review is justified or warranted.

Hence, we respectfully ask this Court to deny the Writ.

Respectfully submitted,

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